Uniform Consumer Disclosure Standards for New England

Report and Recommedations to the New England Utility Regulatory Commissions

The Consumer Information Disclosure Series

By

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The Consumer Information Disclosure Series

Papers in the Series

Information Disclosure for Electricity Sales: Consumer Preferences from Focus Groups

Full Environmental Disclosure for Electricity: Tracking and Report Key Information

Disclosure of Fuel Mix and Emissions by Retail Electric Service Providers: Issues of Confidentiality vs. Public Right to Know

Information Disclosure for Electricity Sales: Consumer Preferences from Focus Groups—Rocky Mountain West

Information Disclosure for Electricity Sales: Consumer Preferences from Focus Groups—West Coast

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Contents

List of Tables and Figures

Table

Figure

Foreword

The National Council and Its Research Agenda

In November 1996, The National Council on Competition and the Electric Industry initiated its Consumer Information Disclosure Project to assist state regulators and legislators address consumer information needs in a competitive electricity environment. This effort followed the National Association of Regulatory Utility Commissioners' November 1996 resolution calling for enforceable, uniform standards that would allow retail consumers to easily compare price, price variability, resource mix and the environmental characteristics of their electricity purchases.

To implement this resolution, the National Council has initiated a multi-part research agenda. The research agenda is designed to identify and provide state regulators and legislators with technical information, consumer research and policy options. The tasks currently being undertaken are described below. A report, describing the research results, will be prepared for each task. Copies will be made available on the National Council's website as they become available.

Task 1—*Full Environmental Disclosure for Electricity: Tracking and Reporting Key Information.* This report identifies mechanisms to trace transactions from generators through sellers, aggregators or marketers to retail buyers to provide consumers with full resource mix and environmental characteristics disclosure.

Task 2—*Disclosure of Fuel Mix and Emissions by Retail Electric Service Providers: Issues of Confidentiality versus the Public Right to Know.* This report identifies the legal and policy considerations involving supplier's requests to keep information confidential versus the public interest in having the information publicly available to consumers and others.

Task 3—*Price and Service Disclosure.* This report will present standard options for comparing price information, risk, important contract terms and conditions, and consumer protection information in an uniform fashion.

Task 4—*Consumer Preferences from Focus Groups.* The first report summarizes the results from consumer focus groups conducted with participants in New Hampshire and Massachusetts retail competition pilot programs; separate focus group reports will summarize interviews with consumers in California, Washington and Colorado.

Task 5—*Baseline Tracking Survey.* This report will describe a survey instrument to gather consumer information, knowledge, attitudes and practices relevant to retail electricity purchasing practices. The report also will summarize the initial, or baseline, data on these issues.

Task 6—*Disclosure Testing.* This report will summarize the results of disclosure testing conducted to measure consumer acceptance, ease of use, comprehensibility and task performance.

Task 7—*Research Synthesis*. This final report will summarize all the disclosure-related research and make final recommendations, including model state statutes and regulations.

Task 8—*Uniform Consumer Disclosure Standards for New England, New England Disclosure Project*. This report summarizes the results of seven months of work with New England regulators and stakeholders to design uniform disclosure standards for the six-state region. The report makes recommendations and includes proposed model rules.

The National Council's home page address is: http://EandE.lbl.gov/NationalCouncil/. (National Council information is located at the bottom of the page.)

Acknowledgments

For the past seven months, the authors have worked with public utility regulatory commissions and other stakeholders in New England to develop a uniform regional approach to consumer information disclosure. Our efforts and this report are part of the National Council on Competition and the Electric Industry's Consumer Information Disclosure Project. These activities are funded primarily by the U.S. Department of Energy and the U.S. Environmental Protection Agency.

This report benefited from the work and the insights of many people. Our largest debt is to the stakeholders (listed in appendix A) who attended the meetings and who, through their comments, helped improve this report immeasurably. We also wish to thank Jonathan Raab of Raab Associates Ltd., the facilitator for the disclosure meetings and who wrote the description of them, and Gillian Wright of EPA, who assisted with the section addressing emissions.

Naturally, the views expressed in this report and any errors are attributable to the authors, not to those of any funder or those who have been kind enough to offer assistance.

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About the Authors

Tom Austin, David Moskovitz, and Cheryl Harrington are principals of The Regulatory Assistance Project.

The Regulatory Assistance Project (RAP) is a nonprofit organization, formed in 1992, that provides workshops and educational assistance to state public utility regulators on electric utility regulation. Workshops, addressed from the perspective of utility regulators, cover a wide range of topics, including electric utility restructuring, renewable resource development, the development of competitive markets, demand-side management and green pricing. Since 1992, RAP has worked with regulators in 45 states, Washington, D.C., and several other countries.

Executive Summary

In March 1997, the public utility commissioners of the six New England states initiated an effort to see whether and how uniform consumer information disclosure for the retail sale of electricity might be developed for use throughout the region. The New England states have long been served by a highly coordinated power pool, and utility regulators in the region have a shared history of cooperation on many regulatory issues. With the emergence of a competitive retail electric industry, the New England region is expected to become a cohesive, single electricity market, making it ideal for region-wide initiatives such as consumer information disclosure.

The New England Information Disclosure Project is part of a larger, comprehensive information disclosure research project of The National Council on Competition in the Electric Industry (National Council), a collaborative undertaking of state utility regulators and state legislators. The Regulatory Assistance Project (RAP) is the manager of the National Council research project and has served as the primary advisor to the New England project.

This report makes a number of specific policy and action recommendations to the six states. It is informed by input from a broad group of stakeholders gathered during a series of nine meetings held in New England, from three national workshops on information disclosure, from the related research activities of the National Council, and from the experience and insights RAP has gained through discussions with state and federal agencies that have authority and experience with consumer information disclosure issues.

Goals

The three most important goals of disclosure are to:

- Allow customers to make the choices they wish to make and thereby achieve customer-preferred outcomes,
- Enhance customer protection, and
- Make the electricity market more efficient.

Fundamental to disclosure is a simple label that is informative, succinct, easily understood and widely available. Simplicity is a central and recurring theme. Throughout the process leading to this report, the authors, regulators and stakeholders have needed to resist the temptation to make labels more detailed and precise than necessary for consumer protection and consumer information purposes. A relentless focus on the goals of information disclosure and the practices and standards for information disclosure for other consumer products and services is essential.

The Label

A basic, uniform label is recommended as the first and most important disclosure vehicle. Consumer research shows the label should convey four pieces of key information: price, contract terms, fuel mix and air emissions. The sample label (figure 1, page 7) developed by

the Massachusetts Division of Energy Resources, shows how the key information might be displayed in a format acceptable to customers.

Product Information

After much thought and discussion, the report recommends that the information disclosed on the label be based on product rather than on company information. Company-wide information should be provided periodically to customers. With the exception of some allowances for the unique circumstances of new products, disclosure should rely on recent historical information.

The model rule also includes a reconciliation provision that periodically compares a Load Serving Entity's (LSE) mix of historical supply sources to the mix of products it sells to consumers. The LSE is required to keep any difference between these mixes at 10 percent.

Price

The price portion of the label should reflect only the average price for generation services. Limiting price disclosure to generation services allows suppliers that sell across a wide geographical area to use a single label without regard to differences in distribution charges. If distribution costs were included, it would be impossible to include a label in a *Boston Globe* ad that reaches consumers in many different service areas.

The average price information needs to be given at several typical usage levels to allow customers to identify the one most closely matching their own.

One-time cash or other price inducements should not be reflected in the disclosure of average electricity price. Prices for time-of-use (TOU) rates should be based on consistent load profiles for customers, with the usage levels shown. Finally, suppliers that offer bundled products have the option to disclose price either by rolling the cost of all goods into the price of electricity or by disclosing the same electricity price for both the bundled and unbundled version of the product.

Contract Terms

The contract terms section of the label should indicate both the duration of the contract and whether the contract price schedule is fixed over the contract period or how it varies (e.g., with the Consumer Price Index, spot market, etc.).

Supply Mix

Supply sources are recommended to be limited to the sources shown in figure 1 (page viii). To simplify the presentation of the information, sources comprising less than 5 percent of the total mix can be combined, provided that no combined group represents more than 10 percent of the total mix.

Emissions

Emissions of sulfur dioxide, nitrogen oxides and carbon dioxide are the most important to report, and they are best expressed compared to the regional average emissions. Emission tracking should be based on a single, simple emission factor for each emission at each plant. Pumped storage units should report the characteristics of the electricity used to pump the water uphill.

We recommend that the label not reflect emission offsets such as tree planting and retiring old cars unless there is either a readily available and generally agreed upon calculation or a governmental or credible independent third-party determination of the value of the offset. Landfill gas projects are examples of the first exception. Carbon dioxide (CO_2) emissions from landfill gas projects can be reduced to reflect the CO_2 equivalent of the methane not released to the air. An example of the second type of exception is allowing CO_2 offsets to the extent biomass projects use fuel harvested from operations certified as using sustainable forest practices by Smartwood Scientific Certification Systems or any other independent group approved by the Forest Stewardship Council.

Tracking

There are two primary tracking approaches—settlements and tradable tags—and each have strengths and weaknesses. The recommended tracking approach is a hybrid of the two. The tradable tag approach is not recommended at this time because of uncertainty about consumer acceptance. Features of the tag approach, however, are recommended to be added to a proposed independent system operator New England (ISO-NE) settlement system.

Disclosure rules for imports depend upon whether comparable tracking and disclosure occur in the neighboring regions. If the neighboring region has a tracking system and disclosure system similar to the one in New England, power from that region would be tracked and disclosed in New England in the same manner as in-region generation. Otherwise, imports should be labeled as such and the average emissions of the exporting company (or region if company data is not available) should be reflected in emission disclosure. Exported power would be labeled at the pro rata average mix of the exporting firm.

If needed, an interim system can be implemented to track unit contracts and entitlements. The tracking systems do not specifically include a generally available default option, but one could be added.

Terms of Service

The report recommends that customers receive a document called Terms of Service that contains all the material terms of services, i.e., detailed information about price, contract terms, consumer rights, substantiation of marketing claims and environmental impacts. This would be provided at the time customers enter into the purchase contract, with sufficient time to review the terms and cancel without penalty, and annually thereafter. A National Council report focusing on the form and content of the Terms of Service is currently available.

Administrative Issues

ISO-NE should serve as the disclosure administrator if it can demonstrate a commitment to disclosure and an interest in protecting retail customers.

Specific costs and time estimates for the ISO-NE to implement the recommended tracking functions have not been made. We did retain a private contractor who has worked with similar tracking electricity from source to sink (generator to final wholesale buyer) for the North American Electric Reliability Council (NERC). She believes she could provide tracking at a fairly low cost and in a short period of time.

Enforcement

Proposed model rules are presented in the report and recommended for adoption by each state commission. Coordination in New England is best achieved if all states use the same rules for disclosure. Labeling and disclosure requirements should be established as a condition of a retail seller's license. Compliance failure could result in sanctions ranging from warnings to revocations of licenses.

Next Steps

With the establishment of a multi-state, staff team working on disclosure issues, the six New England states already have taken an important step toward establishing uniform rules, applicable throughout the region. To achieve uniform and enforceable disclosure requirements in the region, we recommend both that the commission staff team start with the model rules included in this report and, after modifying them as necessary, that each state initiate a rulemaking proceeding based on a uniform proposed rule. Each state should require that parties filing comments on the rule file a copy of their comments in every other state in the region. The Public Utilities Commission (PUC) staff team should consider the comments filed in all states and, to the extent possible, recommend a uniform, final rule.

Introduction

Customer choice is happening quickly. In 1998, millions of retail customers in New England and around the country will begin to choose their own suppliers of electricity. Lessons from other markets and early experience from pilot retail competition projects have shown that giving customers reliable information, preferably in a standardized format, is critical. Reflecting this, the National Association of Regulatory Utility Commissioners (NARUC) passed a resolution in November 1996 calling for uniform disclosure standards including price, price variability, resource mix and the environmental characteristics of electricity purchases.[1] The resolution concludes that:

> *The National Association of Regulatory Utility Commissioners (NARUC), ... believes that the electric industry should facilitate informed customer choice that will promote efficient markets, resource diversity, and environmental quality; and*
>
> *NARUC supports initiatives leading to minimum, enforceable, uniform standards for the form and content of disclosure and labeling that would allow retail and wholesale consumers easily to compare price, price variability, resource mix, and environmental characteristics of their electricity purchases; and NARUC urges states adopting retail direct access programs to include enforceable standards of disclosure and labeling that would allow retail consumers easily to compare the price, price variability, resource mix, and environmental characteristics of their electricity purchases.*

The full resolution can be found in appendix B.

New England governors also have expressed an interest in disclosure and adopted an important resolution in the summer of 1997.

> *NOW, THEREFORE, BE IT RESOLVED, that the New England Governors' Conference, Inc. fully supports current efforts initiated by the National Council on Competition and the Electric Industry and the New England Governors' Conference to develop enforceable, uniform standards for the form and content of disclosure and labeling that wold allow retail and wholesale consumers to easily compare the price, fuel and emissions characteristics of potential electricity purchases; and BE IT FURTHER RESOLVED, that the New England Governors' Conference, Inc. encourages state officials to participate in the research effort and seek consensus so that consumers across the region, when retail choice is available to them, will have the benefit of consistent, easily understandable information regarding the electricity they purchase.*

The full resolution can be found in appendix C.

Shopping for electricity is a new experience for consumers. Experience with pilot programs revealed a high level of consumer confusion because complex price structures made it diffi-

1. Disclosure is factual and objective. For example, a particular purchase might be 40 percent coal, 30 percent gas and 30 percent geothermal power. It does not address subjective claims, such as whether a particular purchase is good or bad, clean or dirty.

cult to compare competing offers and the intangible nature of the commodity made it nearly impossible for customers to determine the sources of their power or to verify whether sellers' claims were true. Without a common language that provides an accurate, objective basis for comparing claims of competitive suppliers, customers will find it difficult—or, in many cases, impossible—to compare the price, fuel and emissions characteristics of potential electricity purchases. In fact, in some of the retail choice pilot programs, misleading claims were common.[2] Customer focus groups conducted with pilot program participants in New Hampshire and Massachusetts confirm that consumers strongly dislike making the "apples to oranges" comparisons with which they have been presented.

Standardized, consumer-friendly labeling and disclosure are required in many sectors of the retail economy—such as food, automobiles and consumer credit—to correct informational imbalances between seller and buyers and to provide a uniform basis for comparison of material terms. A uniform disclosure mechanism for retail electricity sales will give customers an accurate, objective basis for comparing price and environmental claims of competitive suppliers.

A disclosure policy covering price, fuel mix and emissions also will protect suppliers from unfair trade practice claims by setting clear rules. It protects customers from having difficulty comparing prices and from a backlash aimed at environmentally-benign resources by helping to ensure that customers get what they want and pay for. Depending upon the level of customer demand, it can result in cleaner resources and less pollution.

2. Some argued that a number of the environmental claims made in the pilot programs violated existing laws regarding environmental claims used in marketing and that, had the law been adequately enforced, some, or perhaps all, of these abuses would not have occurred. They may be correct in arguing that some of the abuses in the pilot programs were, in fact, in violation of the current Federal Trade Commission (FTC) guidelines.

However, even if we could assume adequate funding of the FTC's enforcement activities, relying solely on existing law would fall far short of the proposed disclosure in a number of respects. There would be no uniform price information; without some type of environmental claim, there would be no fuel or environmental information at all; and if an environmental claim were made, it would provide only the same information as the disclosure label if the marketer wished to make broad environmental claims regarding both fuel and emissions.

The New England Disclosure Project—State Solutions to Multi-State Issues

In November 1996, the National Council on Competition and the Electric Industry (National Council) began a comprehensive information disclosure project. With input from the U.S. Department of Energy (DOE), Environmental Protection Agency (EPA), Federal Trade Commission (FTC), Food and Drug Administration (FDA), Energy Information Administration (EIA) and Federal Energy Regulatory Commission (FERC), a multi-part research effort was designed.[3] The research effort includes consumer research modeled by staff of the FDA and draws on FDA's substantial experience with food labeling efforts. The project guides policy and technical research into a variety of labeling and tracking issues and seeks stakeholder input through a series of regional disclosure meetings. The Regulatory Assistance Project (RAP) serves as the project manager of these activities. In February 1997, the National Council added the task of working with the New England states to develop a uniform, regional disclosure mechanism.

New England is a likely place to conduct this effort. During the past few years, the New England states and their PUCs have increasingly turned their attention toward restructuring the electric utility industry to allow greater competition, particularly by allowing customers to choose among several competitive suppliers of generation. Each of the six states has favored disclosure of fuel mix, and several want suppliers to disclose environmental emissions as well.

Although individual states have kept themselves apprised of developments in neighboring states, the authority to act resides within each state. At the same time, many competitive issues, including disclosure, have strong regional overtones. Through the New England Power Pool (NEPOOL), the electricity supply in the region has been tightly integrated for years. More recently, the Energy Policy Act of 1992 and the move toward competition have meant that the market for electricity, at least in New England, is region wide.

One goal of the New England Disclosure Project is to facilitate coordination among the states to fashion consistent, if not uniform, state requirements for information disclosure. Widely disparate state disclosure requirements are undesirable for many reasons. Competitive firms prefer uniform requirements to avoid higher marketing and administrative costs. Regulators, consumer advocates and consumers prefer uniform requirements so consumers more easily recognize, understand and use the disclosed information when choosing a supplier. Uniform requirements throughout a large region also reduce the possibility that firms might have an incentive to "game" the system.

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3. FTC and FDA staff have provided informal advice because of their significant experience with disclosure and consumer information in other industries. Although staff of the EPA, DOE, FTC, and FDA have been informal advisors on consumer disclosure issues, none has taken any position regarding the specific disclosures presented in this report.

In recognition of the regional nature of the power market, each New England PUC formally expressed interest in the New England Disclosure Project and agreed to consider the results in their state proceedings.[4]

Gaining Input—Disclosure Stakeholder Meetings

The New England PUCs asked RAP, as part of its work, to solicit the opinions of stakeholders within the region. This was done in consultation with a Steering Committee composed of a commissioner from each of the New England States.[5] Commissioner Janet Gail Besser of the Massachusetts Department of Public Utilities chairs the steering committee and, in that role, has served as the primary contact person.

A major vehicle used to consider and design mechanisms to accomplish uniform information disclosure were nine public meetings that were held from April through September 1997, including a session to review an earlier draft of this report. The meetings were intended to engage interested persons in a deliberative process to identify issues and options related to disclosure of electricity pricing, fuel mix and emissions, and to analyze the strengths and weaknesses of each option. Although RAP also was interested in understanding the areas where participants were in agreement and where they diverged, the meetings were not intended as a formal, consensus-seeking process. Throughout this report, we will point out where there was fairly broad agreement among the participants. However, individual attendees at the meetings may disagree on some specific points.

Participants at these meetings came from a broad range of stakeholder groups. Although the term "meeting" is used, in essence these were working groups where successive meetings built upon the input from earlier sessions. A number of interests were represented at all meetings. Attendance averaged approximately 50 people per meeting, and a total of 60 organizations attended at least one meeting (see appendix A for complete list of attendees).

The first three meetings were conducted by Tom Austin of RAP, and the remaining six were facilitated by Dr. Jonathan Raab, president of Raab Associates Ltd.[6] In addition to facilitating the six meetings, Dr. Raab took lead responsibility for designing the agendas and drafting the meeting minutes. The agendas for the final five meetings were developed with input from an advisory committee.

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4. Representatives of the N.Y. PSC have attended the regional meetings. RAP also has kept representatives of the New Jersey Board of Public Utilities (NJBPU) informed of progress. If the six New England States agree on uniform disclosure requirements, that will increase the likelihood that uniformity can be extended to New York and the PJM region. This would benefit suppliers and consumers.

5. Steering Committee: Janet Gail Besser, Chair, Mass.; Reginald Smith, Conn.; Heather Hunt, Maine; Susan Geiger, N. H.; James Malachowski, R. I.; Richard Sedano, Vt.

6. Funds for the facilitation services were generously provided by the National Council on Competition and the Electric Industry, the Massachusetts Division of Energy Resources, New England Power, Enron, the Competitive Power Coalition, All/Energy, Maine Public Advocate, Green Mountain Power, Central Maine Power, Eastern Utilities Associates, MMWEC and Unitil Corporation.

Advisory Committee Members

PUCs	Paul Peterson (Vt.) and Lucy Johnston (Mass.)—shared position
Energy Offices	Deena Frankel (Vt.) and Julie Michaels (Mass.)—shared position
Electric Utilities	Liz Hicks (NEES)
Marketers	Dan Allegretti (ENRON)
Generators	Alyse Gray (IEC)
Environmental	Ian Goodman (Goodman Group)
Consumer Advocate	Bill McAvoy (Mass. Attorney General's Office)

In his meeting efforts, Dr. Raab worked closely with Tom Austin. Together they kept the steering committee apprised through Commissioner Besser.

Stakeholders who attended the meetings explored both what should be disclosed to customers in the form of an information label, and what type of tracking mechanism should be used to support and verify the information contained in such a label.

Discussions at early meetings followed presentations by RAP, other attendees and invited presenters on a range of disclosure topics. The primary problems to be solved and possible solutions were introduced. During the course of the spring, the meetings were used to develop criteria for evaluating the success of disclosure mechanisms. In addition, many meeting participants served on subcommittees that met between meetings to develop proposals for the full group to consider. There were subcommittees for price issues, consumer interface, tag-based tracking, ISO-based tracking, GMP's hybrid tracking and legal issues. Over time, the price issues and consumer interface committees merged. The various tracking committees, while continuing to develop proposals independently, also participated in some joint meetings and created several joint products. Dr. Austin participated in many of these subcommittee meetings. Dr. Raab stayed abreast of the progress in each meeting and facilitated one all-day joint meeting of the tracking committees.

By July, lists had been developed of issues upon which there was general agreement and of issues that continued to be problematical. A draft version of this report was written in August 1997 and circulated for feedback to the stakeholders who attended the meetings and to other interested parties.

Other Report Input

The recommendations in this report are RAP's. They are based upon information gathered during the New England meetings and during a series of national workshops. They also draw upon information gained from the broader research activities of the National Council, experience and insights gained from RAP's interaction with many state and federal agencies with authority or experience with disclosure issues, and ongoing discussions with a wide variety of stakeholders.

Price, Fuel and Environmental Disclosure

Disclosure Goals

At an early meeting, three fundamental goals of disclosure were generally agreed upon.

- Allow customers to make the choices they wish to make and thereby achieve customer-preferred outcomes.
- Enhance customer protection.
- Make the electricity market more efficient.

The list is interesting not only for what it includes—which are three clearly desirable goals—but also for what it omits. Items that ultimately were considered to be secondary included:

- Encourage renewable resources.
- Improve the environment.
- Comply with the PUC's request that disclosure be adopted.
- Provide a mechanism to substantiate marketing claims.
- Provide a mechanism to enforce a portfolio requirement.

In other words, the primary goals of disclosure are to assist customers in making their own resource choices (not to achieve a resource mix desired by policy makers), to assist marketers in substantiating any claims they may make or to assist in other state regulatory functions. Of course, it is possible that the outcome of customer choice—informed by disclosure—might (or might not) be to encourage cleaner generating sources or to help marketers substantiate their advertising claims. These outcomes, however, are secondary to the direct purpose of disclosure—to provide information to consumers.

Closely related to these goals is the central and recurring theme of simplicity. Throughout the process that led to this report, the authors, regulators and stakeholders have tended to want to provide information that is much more detailed and precise than is necessary for the consumer protection and consumer information task at hand. It is essential to relentlessly focus on the purpose of information disclosure and the practices and standards for information disclosure for other consumer products and services.

There are many examples where balancing simplicity and precision has helped to resolve difficult choices. For instance, in an effort to protect customers from inaccurate or imprecise claims, some stakeholders have concluded that claims relating to resource mix or emissions should be prohibited. Yet, experience from other consumer product areas—such as food and recycled products—show that such information is useful to consumers, even though the accuracy required is only plus or minus 10 percent. Knowing that precision is not required helps resolve this and many other policy and technical issues in favor of simple and practical disclosure options.

Proposed Label

Designing an effective disclosure label involves a number of tradeoffs. The most basic is resolving the conflict between providing all the information a customer might desire and developing a succinct and easily understood label. Consumer research and experience gained by the FDA and FTC in other areas convinced us to place a high value on simplicity.

The Massachusetts Division of Energy Resources (MDOER) took a lead role in developing the proposed label. At least for now, we recommend the use of the label shown in figure 1.

Figure 1. Sample Electricity Facts Label

Generation Price
Average price (cents per kWh) for varying levels of use. Prices do not include regulated charges for delivery service.

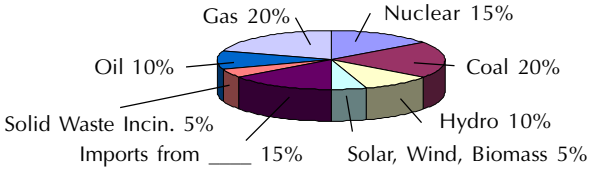
Monthly Use	250 kWh	500 kWh	1,000 kWh	1,500 kWh
Average Generation Price	5 cents	4.5 cents	4 cents	3.5 cents

Your average generation price will vary according to when and how much electricity you use. See your most recent bill for your monthly use and Terms of Service or your bill for actual prices.

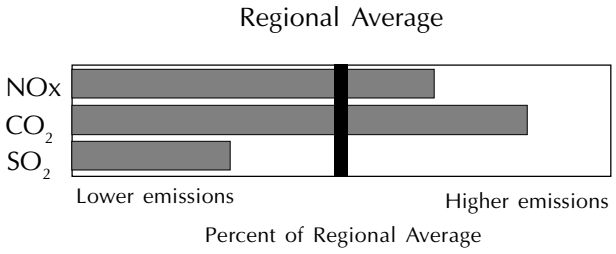
Contract
See your contract or Terms of Service for more information.

- Minimum Length: 2 Years
- Price Variability: Fixed over contract period

Supply Mix
We used these sources of electricity to supply this product from 6/96 to 5/97.



Air Emissions
Nitrogen oxides (NOx), sulfur dioxide (SO_2) and carbon dioxide (CO_2) emissions from this generation relative to regional average.



See your Disclosure Statement for further information regarding this label and your electricity service. You may also call XYZ Energy Supply for additional information or a copy of the Disclosure Statement at 1-800-555-1234.

Except for a few minor changes, the recommended label is drawn from the MDOER proposal.[7]

One of the next phases of the National Council's research is to test six labels with consumers around the country. A label like the one shown here will be tested along with a similar label. The difference is that fuel facts are shown in a tabular form, similar to the display used in food labels. Research thus far suggests a slight consumer preference for the pie chart form. However, pie charts suffer one shortcoming—supply sources with zero contribution are simply absent from the chart. In a tabular format, on the other hand, these sources would be listed with a zero. Additional research, to be completed later this fall, will explore this issue further.

Price Disclosure

Disclosure of price information is a good example of the tradeoff between simplicity and completeness. Price is the primary concern of most customers who shop, or expect to shop, for consideration in their decision.[8] No nonprice consideration was nearly as important. Other surveys and the focus group research found similar sentiments.[9]

Despite the fact that price was most important, focus group research conducted by the National Council showed consumers had difficulty comparing price offers, even when the price structures differed in very minor ways. Focus groups in New Hampshire strikingly revealed that customers found it difficult to make price comparisons among offerings. Practically all focus group participants wanted prices displayed in a simple, "apples-to-apples" manner. The New Hampshire poll showed that 84 percent of New Hampshire customers thought suppliers should be required to provide customers with uniform price information.[10] Similar results have been obtained from polls in other states. The stakeholders' discussion of price disclosure focused on seven questions.

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7. Some parties also proposed that certain additional information be shown on the back of the label to assist consumers in understanding the label and its significance. The additional information included definitions, clarifying comments and a description of the three air pollutants reported and the associated environmental and health effects. We recommend that all the information suggested be included in the Terms of Service rather than on the reverse side of the label. Our reasons for recommending that the back of the label not be used for this purpose are: 1) the label will appear in many places, such as newspapers and Internet web sites, where the back of the label is a press account of unrelated content or the inside of a computer screen, 2) the size of the label will not always allow all the information to appear in a readable font size and 3) food labels and other similar disclosures that have similar need for additional information have not chosen to use the back of the label. On the other hand, where placing information on the back of the label is practical, it should be encouraged.

8. R. Kelly Meyers, UNH Survey Center, "Survey Report of Retail Competition Pilot Program in New Hampshire," Prepared for the New Hampshire Public Utilities Commission, January 31, 1997.

9. See (1) Alan S. Levy et al, Information Disclosure for Electricity Sales: Consumer Preferences from Focus Groups," The National Council on Competition and the Electric Industry, July 1997, and (2) Maine Public Utilities Commission Customer Surveys, Appendix 4, Electricity Utility Industry Restructuring, Docket 95-462, Report and Recommended Plan, Decision 31, 1996.

10. More specifically, 60 percent of customers "strongly agreed" that suppliers should be required to provide customers with uniform price information, while 23.5 percent "somewhat agreed."

Should the label disclose the price for competitive generation, or should it report the combined price, including generation, transmission, distribution and any other regulated services?
Recommendation: Report only generation costs on labels.

Most stakeholders preferred that the label report generation costs only, and not other regulated charges such as transmission and distribution costs. There were two reasons for this position. First, the goal of the label is to help customers choose among competitive generation firms. Customers will pay the same regulated charges no matter which supplier they choose. Second, most competitive suppliers will be marketing to many customers, including customers that are served by different distribution companies. If labels reported the combined generation and monopoly price, different labels would be required for each monopoly service area; this would add significant costs. In addition, such labels could not be used in many forms of marketing. For example, an advertisement in the *Boston Globe* would be targeted at customers serviced by a number of distribution companies. No single label could include the total costs to all customers. By limiting the label to generation charges, a single label would apply equally to every prospective customer.

Should the label report actual price schedules, or should it provide a table that allows direct comparison with other products?
Recommendation: Provide a simplified average price table in the label and show actual price schedules in the Terms of Service.

Suppose a firm offered customers a product priced in a relatively simple manner, such as a $5 per month customer charge, $0.04 per kilowatt-hour (kWh) for the first 500 kWh and $0.03 per kWh for any additional kWh.

One option would be to simply report each of these elements directly on the label. The advantages of this approach would be that it is simple to administer and would allow customers to determine their cost for any level of use. The disadvantage is that this information would not allow customers to directly compare costs of this product to the costs of alternative products with prices that have different price structures.

The other option is a simple table. Using the same charges as in the example above, this would be:

Monthly Usage	Average Price
250 kWh	6.0 cents per kWh
500 kWh	5.0 cents per kWh
1,000 kWh	4.0 cents per kWh
2,000 kWh	3.5 cents per kWh

Since the table for all products offered each customer class would be based on identical usage levels, this table allows easy comparisons. A similar tabular approach also was attractive to customers in the focus groups.

It is important to show the average price for several levels of monthly usage. Using only one or two usage levels creates two problems. First, it is possible that firms could structure their

prices so that costs were particularly low only for the usage points listed on the table. Second, the table does not allow customers to determine costs for their own usage levels outside the range of levels. We believe both problems can be mitigated by providing costs for several different usage levels, with the highest level being at least 2,000 kWh for residential customers.

In any event, we recommend giving customers both types of information. The label should include a table showing average generation prices at the usage levels shown above and shown on the label in figure 1. In addition, the actual generation prices and price structure should be included in the Terms of Service section.

How should the label deal with seasonal and time-of-use rates?
Recommendation: Calculate average price tables based on consistent load profiles for typical customers.
For seasonal and time-of-use rates, the price table should be calculated based on the costs for customers with seasonal or daily usage patterns of New England customers.[11] The same load profiles should be used by all suppliers. The recommended label indicates to customers that their costs may differ if their usage patterns are not typical. The Terms of Service would include the specific charges for seasonal and time-of-use rates to assist customers with unusual usage patterns to make comparisons.

How should the label deal with variable prices such as prices that vary with the spot market price?
Recommendation: The label should reflect the average price, based on the prices of electricity on the last Wednesday of the most recent quarter. The label should indicate the basis of the displayed price.

Variable prices, including prices based on spot market prices will, by definition, be changing constantly. Consumers will receive the exact pricing terms in any service contract and in the required Terms of Service. The label will tell the consumer that the average prices displayed are variable (as opposed to fixed). Consumer familiarity with fixed versus variable rate loans and mortgages will make it easier for consumers to understand variable priced electricity.

To facilitate comparison shopping—particularly between products that use variable pricing—and minimize gaming opportunities, we recommend that the average prices represent all suppliers on a particular day. The label should clearly indicate this fact and refer consumers to the Terms of Service for more information.

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11. Use of average load profiles in general, and regionwide load profiles in particular, are good examples of balancing precision and simplicity. We recognize the average load profile of a 500 kWh per month residential consumer is not the same throughout the region. That probably is not the same in a given state or even in a given service territory. Nevertheless, our judgement is that the load profiles are close enough so that the effect on average monthly prices are within the .05 cents per kWh tolerance range we recommend in the draft model rule. In addition, using different load profiles for customers in different states or service territories would require retail marketers to prepare multiple labels, (and avoid newspaper ads) whenever they wished to offer seasonal or time-of-use rates. Different profiles for groups of residential and nonresidential customers should be used only if usage patterns are so different that average price displays are misleading.

How can price be disclosed for bundled products? For example, what if a firm offers electricity to customers who also receive Internet access or cable television service at a bundled rate?

Recommendation: Suppliers have the option to disclose price either by rolling the cost of all goods into the price of electricity or by disclosing the same electricity price for both the bundled and unbundled version of the product.

The issue of how to display average prices when electricity is bundled with other products is particularly difficult. It involves a careful balance between giving customers an understandable way to compare prices without discouraging product innovation though price displays that bias against bundled products.

It is difficult, if not impossible, to determine the stand-alone price of electricity where a supplier offers it only as part of a bundled product with a single price.[12]

It is not clear whether bundled products will be common. In the telecommunications market, for example, the move to competition has resulted in fewer, not more, bundled products as compared to the regulated market of 15 years ago.

Bundled products and services should not be confused with suppliers that offer multiple products and services, which we believe suppliers are likely to do. We also expect there will be discounts for buying multiple products from the same supplier. We have seen deep discounts on software bought as part of a larger package, discounts on insurance if the consumer has home and auto insurance with the same supplier, lower service charges if checking and savings accounts are with a single bank, and discounted prices if multiple telephone services such as caller identification, call waiting and call forwarding are bought as a package. An electricity firm might sell either electricity or Internet access and offer a discount to customers who purchase both.

Where a supplier's only electricity offer is bundled with other services, there are three options.[13]

Firms offering bundled products could be exempted from the requirement to report price. In this case, the price section of the label would indicate that electricity price information is not available separately. This option is not recommended because suppliers that want to make price comparisons difficult could bundle electricity with a trivial product simply to avoid disclosing price on the label and, at the same time, could display price information in their marketing materials to place their product at an advantage.

The second option is to require the supplier to allocate the total price between the bundled products and disclose the allocated price of electricity, with an added note that the price is

12. These problems caused some stakeholders to recommend that PUCs require all suppliers offering bundled electricity to also offer it on an unbundled basis.

13. Based on experience in other markets, we do not expect there will be many circumstances in which sellers will offer electricity only if consumers buy a bundled product. Most sellers that offer bundled services also will offer electricity on an unbundled basis.

available only if the consumer purchases specific other services or products shown in the Terms of Service. This option is better than the first. Although a clear potential exists for gaming, the note on the label and the unbundled prices in the Terms of Service may be enough to discourage suppliers from showing artificially low electricity prices on the label.

The third option is to calculate an electricity price based on the total price paid for all bundled services, with an added note that other services are included in the price of electricity. We believe this option is better than the first and may be better than the second. This option should discourage suppliers from limiting their electricity offers to bundled products, a move that may be desirable at least in the early years of retail electricity competition. On the other hand, under this option the label will be seen in conjunction with other marketing materials created by the supplier. This contrasts with natural gas price comparisons being experimented with by the Ohio PUC. In the Ohio price comparisons, the consumer is given a single page comparing the average prices of all suppliers. Any bundling of services or other complexities of price offers are necessarily limited in this type of disclosure.

We recommend that firms that offer electricity on both a bundled and unbundled basis (with or without a discount for buying multiple products) have the option of disclosing price in one of two ways. The supplier could elect to roll the costs of all goods into the disclosed average price of electricity as described in the third option above, or it could report the unbundled electricity price for both the bundled and unbundled versions of the product.

How should one-time price inducements be reflected in price disclosure?
Recommendation: Price inducements should not be reflected in the disclosure of average electricity price.

A related issue is the treatment of one-time sales inducements. In New Hampshire, several firms used inducements such as bird feeders or cash to attract new customers. Focus groups in New Hampshire and elsewhere found that customers preferred price disclosure that did not include inducements. Given a clear electricity price, consumers seem to be able to recognize the one-time inducements.

What other price related information should be disclosed on the label?
Recommendation: The label should indicate whether price terms are fixed and the period of time customers are obligated to stay with the supplier.

There are two other items to display in the price section of the label. The first is whether the price terms are fixed or guaranteed for some period of time or whether the price will vary. The label also should indicate whether customers can switch to another supplier at will or whether, if they accept the offer, they will be obligated to remain with the chosen firm for a specific period of time.

A sample of the recommended price disclosure portion of the label is shown in figure 1.

Fuel Disclosure

Consumer research in New England and nationally[14] shows that customers want to know the sources of the power they purchase and that a some would base their purchase decisions, at least partially, on the supplier's power sources. Recognizing this, all New England states have expressed a desire for uniform mandatory disclosure of fuel mix.
Fuel disclosure requires three fundamental steps.

- Precise definition. What is to be reported? What categories of fuel will we use? Is data available to determine the fuel source?

- Tracking mechanism. How will we track electricity through the transmission network? Once we know the fuel type for individual generating units, how do we determine which units serve which load serving entities (LSEs) and their customers? (LSEs are firms that sell competitive generation at retail.)

- Assurance of accuracy. How can we have reasonable assurance that the disclosure material LSEs provide their customers accurately reflects the fuel source determined by the tracking mechanism?

How should fuel use be reported?
Recommendation: Eight supply sources should be used in the label.
The "solar, wind, and biomass" category should be further broken out and listed separately whenever this category contributes more than 5 percent of a total mix.

Determining the specific fuels to report is largely a matter of developing a list that is reasonably short, but that still differentiates among the major fuel types, particularly those where customers may exhibit strong preferences. Over the course of the stakeholder meetings, the participants focused on seven basic fuel categories. As discussed in the Tracking Issues chapter, we recommend adding an imports category. The recommended fuel or resource types are:

- Coal
- Nuclear
- Oil
- Natural Gas
- Hydroelectric
- Solid Waste Incineration
- Solar, Wind, and Biomass
- Imports from outside the region (New York, New Brunswick, Quebec)

The first four are self explanatory. Hydroelectric and solid waste are broken out because they are larger than the items grouped together in the final category and because some customers may have clear opinions, both pro and con, on their desirability. Solar, wind and biomass are

14. See Myers, Levy et al., and Maine PUC, op. cit.

grouped to reduce the total number of sources because all are generally perceived by the public as "renewable," and because none are large sources.

While the label would list these eight sources, the tracking mechanism would have the ability to trace generation to individual generating plants. This is desirable for two reasons. Some states may wish to subdivide fuel categories, e.g., to divide hydroelectric into small and large plants, with a dividing line in the range of 30MW to 80 MW. In addition, some LSEs may want the ability to track to specific plants to support marketing claims, e.g., this product is from local generators, or this product is produced with union labor.

The decision to combine solar, wind and biomass into a single category was difficult. Focus group research suggests that solar, wind and biomass should be stated separately. To balance the need for simplicity against the consumer preference, we recommend that the components be broken out in the pie chart whenever a group contributes more than 5 percent of a product's mix.

To further simplify the display to consumers, other sources comprising e percent or less of the mix may be combined into a single listing, provided the total contribution of the group does not exceed 15 percent of the total mix.

Emissions Disclosure

Disclosure of emissions information is important for two reasons. First, although fuel type provides some information about the environmental effects of electricity generation, the connection between fuel type and pollution effects is indirect and may not be well understood by many consumers. Second, the environmental effects of a particular fuel type can vary significantly, depending on the type of generation equipment and the pollution controls used.

Disclosure of emissions information provides a straightforward way to capture differences. It recognizes low-emissions generation and avoids implied discrimination against a particular fuel type (e.g., coal) where there is a wide range of emissions from plants.

Several consumer focus groups conducted for the National Council explored these issues in more detail. Consumers were asked to choose between two electricity products with different fuel mixes. Consumers consistently selected the product with less coal and more gas and renewables. (Nuclear was not part of either product.) Consumers next were asked to choose between the same two products, but this time both fuel mix and emission information were given. The consumers in the focus groups were given emission information that showed the coal-based product had lower emissions than the alternative. Customers uniformly changed their choice of product. Exploring the issue with consumers showed their preference and need to have both types of information.

Which pollutant emissions should be disclosed?
Recommendation: Where emissions disclosure is required, sulfur dioxide, nitrogen oxides and carbon dioxide should be reported.

Emissions information should be disclosed for those pollutants emitted in significant amounts by electric generators, for those having recognized environmental and public health effects and for those where reliable data is readily available. Many stakeholders concluded that emissions of three pollutants—sulfur dioxide (SO_2) , nitrogen oxides (NOx) and carbon dioxide (CO_2) should be disclosed.

As part of the National Council's broader research effort, we also asked staff of the U.S. Environmental Protection Agency (EPA) to prioritize emission information. Their top three choices for consumer disclosure were the same three pollutants.

These pollutants are key contributors to a number of air pollution problems, including acid rain, fine particulates, ground-level ozone and global climate change. Generating plants that burn fossil fuels, biomass or solid waste emit one or more of these pollutants. Electric utilities are the largest source of SO_2 emissions, and are a major source of NOx and CO_2 emissions.[15] SO_2 and NOx emissions are monitored through several federal and state environmental regulatory programs, including EPA's Acid Rain Program and the upcoming NOx Budget Program. CO_2 emissions are monitored through the Acid Rain Program and can be reliably estimated using simple multipliers.

In choosing which emissions to monitor, we looked at three primary criteria: Emissions had to have an important effect on the environment, the data necessary for disclosure had to be reasonably available from relatively reliable sources (we tried not to impose new monitoring requirements) and the disclosure of emission facts had to add information beyond that implied by fuel disclosure.

These criteria caused us to exclude some potential types of emissions. Mercury, for instance, is emitted from coal-burning electric plants and from solid waste incinerators, and there is growing concern about its effect on the environment and public health. Despite these concerns, accurate disclosure of mercury emissions does not appear feasible at this time. Mercury emissions from electric generation are neither widely nor frequently monitored. In addition, mercury emissions can vary widely, depending on the mercury content of the fuel. As a result, the uncertainties associated with estimating mercury emissions are high.[16]

Disclosing the generation of nuclear waste or nuclear radioactivity also was rejected, although for different reasons. While nuclear issues are very important to some customers, radioactive emissions do not seem to vary greatly from one nuclear plant to another. Thus, simply telling customers what portion of their power comes from nuclear plants seems adequate.

What format should be used for emissions disclosure?

Recommendation: Emissions should be presented in grams per kilowatt-hour, and the label should allow comparison to the regional average emissions of each reported emission.

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15. EPA Brochure on National Air Quality: Status and Trends, October 1996, EPA-454/FERC-96-008.

16. Personal communication, Marika Tatsutani, Northeast States for Coordinated Air Use Management (NESCAUM).

Emissions are normally measured in units of grams per kilowatt-hour, and this provides a simple objective format to supply information to customers. The only concern is that most customers will find it difficult to interpret the statement that a certain electricity purchase contains X grams per kilowatt-hour of sulfur dioxide. Food labels faced a similar problem because many customers had trouble interpreting a statement that a certain food product contained X grams of fat.

The solution is to find a simple mechanism for comparison similar to the way that fat content is compared to the amount of fat in a representative diet. In our recommended label, emissions are compared to the average level of emissions for all generators within the New England region. Other alternatives considered include using the level of emissions within each state or within the entire country.

Pending completion of additional consumer research currently underway by the National Council, we also recommend the emission information in the label for a product be truncated at 0 percent (due to offsets, emissions of CO_2 could be negative for a plant, but not for a product) and 200 percent. This allows the use of bar chart displays where the regional average appears midway along the bar.

There are some advantages of relying on the regional emissions levels. Using a national average would allow customers to compare their purchases to a market that is, to a large degree, not available to them. On the other hand, because most of the electricity consumed in New England is produced in the region, the regional mix is a reasonably good characterization of the alternatives available to customers. Using a state-level emission average would mean using the average emissions of what LSEs are selling in the state rather than the emissions of plants located in the state. Given the nature of the region's electricity market, any LSE in any state could easily be selling from any of the region's power plants. A regional average benchmark also makes sense because it allows LSEs to have a single label for all New England states and because the tracking system we recommend easily calculates and updates the region's average emissions.

What emissions data is available to support disclosure?
Conclusion: Emissions information is available to support disclosure.

Emissions information for SO_2, NOx and CO_2 is publicly available from the EPA and environmental agencies in the New England states. Combining EPA data, state data and established estimation techniques, it is feasible to compile reasonably accurate emissions information for disclosure purposes. The fact that the information is publicly available is important for two reasons. First, the information used for disclosure could literally be gathered from publicly available sources, although the more efficient and timely source for the same data is to collect it directly from generators. (See discussion of ISO-NE tracking in the Tracking Issues chapter.) Second, information that is made publicly available is not likely to warrant confidential treatment.[17]

17. See National Council Report, *Disclosure of Fuel Mix and Emissions by Retail Electric Service Providers: Issues of Confidentiality vs. Public Right to Know* (Hempling, July 1997).

Data on emissions of SO_2, NOx and CO_2 is available from EPA over the Internet for the approximately 68 percent of the emitting-generating capacity in New England that is subject to the Acid Rain Program. Similar data on NOx emissions is expected to be available for an additional 22 percent of emitting capacity beginning in the summer of 1999 when EPA's NOx Budget Program is implemented.

Table 1. Breakdown of Emissions Data Available for New England Emitting Generation Capacity

Emissions Data Source	Percent of Emitting Generation Capacity		
	SO_2	NOx	CO_2
EPA Emissions Tracking System: Acid Rain Program	68	68	68
EPA Emissions Tracking System: NOx Budget Program	NA	22	NA
CO_2 Emissions Multipliers	NA	NA	32
Emissions Estimation Factors*	32	10	-
Total	100	100	100

*May be source-specific or nonsource-specific AP-42 estimators. Estimation factors require fuel use and heat rate data to calculate emissions.

NA = Data not available from this source.

Data includes utility and nonutility generation.

The remaining emissions data can be estimated using a combination of existing data and established methods. For the 32 percent of emitting generation capacity not covered by Acid Rain Program data, CO_2 missions can be reliably estimated using established emission factors or multipliers. SO_2 emissions also can be reliably estimated for these sources, most reliably with information about the sulfur content of the fuel and source-specific estimation factors developed in the permitting process for large sources. In the absence of source-specific estimation factors, EPA's more generic AP-42[18] emissions factors can be used. For the 10 percent of NOx emitting generation capacity not covered by the Acid Rain Program data or the NOx Budget Program data, emissions can be estimated using a combination of detailed emissions factors accounting for control technologies developed by Acurex Environmental Corporation,[19] emissions limits for solid waste combustors recently set by EPA[20] and AP-42 emissions factors for wood and biomass facilities. Any facility using estimated data also could have the option of supplying more accurate data to the disclosure administrator.

18. AP-42 refers to *Compilation of Emission Factors, Volume I: Stationary Point and Area Sources*, AP-42, January 1995.

19. *Phase II NOx Controls for the MARAMA and NESCAUM Regions*, EPA-453/R-96-002, November 1995.

20. 40 CFR Part 60; *Federal Register* 60, no. 243, December 19, 1995.

Databases of Emissions Information

EPA Disclosure Database
The Acid Rain Division at EPA is in the process of developing the Generation and Emissions Data Base (GEDB), which is expected to be publicly available by spring 1998. It will include data on emissions and fuel mix by power plant, electric generating company, power control area and NERC region. This database could provide a baseline of data for disclosure purposes.

ISO New England Emissions Data
ISO-NE (formerly the New England Power Pool, or NEPOOL) annually compiles historical emissions information and makes projections of emissions for the entire ISO-NE grid. The emissions projections are based on confidentially submitted information from the pool members, including emissions estimation factors (estimated rates of emission by input fuel type, frequently based on the rate allowed in their permits), fuel type and projected fuel consumption, and heat rates. The historical emissions information uses monitored emissions data provided by members when available, and estimation factors when emissions data is not available. For small, infrequently run units, ISO-NE often uses EPA's AP-42 estimation factors. ISO-NE currently does not verify the accuracy of the emissions rates submitted to them but does carefully verify the heat rate and generation data.[21] We have no reason to believe the data used by ISO-NE is different from the publicly available data used by EPA.

How should emission information collection be simplified for tracking and reporting purposes?
Recommendation: Plant emissions should be calculated based on single emission factors (x grams per kWh) for each of the three pollutants reported on the label.

Actual emissions factors from a generator can vary substantially from hour to hour, day to day, and seasonally. This is due in part to fuel quality changes and in part because the efficiency of the plant and its pollution control equipment varies depending on whether the plant is operating at partial or full capacity. On the other hand, fuel mix and emission information disclosed to consumers will necessarily be based on longer term operation of several plants.

Our review of the available data and recommendations received from U.S. EPA lead us to recommend, at least initially, that plant emissions (in grams per kWh) of SO_2, NOx and CO_2 be reduced to a single annual emission factor. This means the quarterly updates of emission information on the label would reflect changes in emissions due to changes in fuel mix, not the emission factor itself. More frequent updates of the emission factors may make sense later depending on the U.S. EPA's progress on its new emission database. Dual fuel plants would include a separate emission factor for each fuel. These plants also should periodically report the mix of fuels they used.

21. Personal communication, Kevin Mankowski, ISO New England.

How should storage units be treated?
Recommendation: Storage units should report the characteristics of the electricity sent to storage.

Energy storage facilities—such as pumped storage, compressed air or batteries—require special consideration. When generating electricity, they produce no emissions. Yet, because emissions are produced when other sources of generation are used to pump water, compress air or charge batteries, storage units should report the characteristics of the electricity sent to storage. If other forms of electricity storage become common, they should be treated in a similar manner.

Should reported emissions always reflect the emissions emitted from the smokestack or should offsets be allowed?
Recommendation: Offsets should be allowed only in limited circumstances. Specifically, CO_2 emissions from landfill gas projects should be reduced to reflect the CO_2 equivalent of the methane not released to the air, and biomass units should be allowed to reduce reported CO_2 if their fuel is certified as being harvested using sustainable forestry practices.

Some suppliers might choose to offset emissions with actions like tree planting, retiring old cars or pollution reductions at nongenerating facilities. Two considerations influence our recommendation; the availability of reliable noncontroversial data and consumer acceptance.

It is not clear how consumers will react to some types of offsets. For example, how will consumers react to offsets on labels of an electricity product sold in Maine produced by retiring old cars in California? It is also not clear that the emission reductions from such a program can be readily computed or obtained from a governmental or independent entity. For these reasons, we recommend disclosing emissions to reflect offsets only when reliable estimates of the emission value produced from these types of actions are available and acceptable (from either the government or an independent third party). Also, at least until there is more experience with consumer acceptance, we recommend limiting offsets to activities in close proximity to the source of the emissions. Landfill gas projects are an example where carbon dioxide emissions from landfill gas projects can be reduced to reflect the CO_2 equivalent of the methane not released to the air. Another example is allowing CO_2 offsets to the extent biomass projects use fuel harvested from operations certified as using sustainable forest practices—such as by Smartwood Scientific Certification Systems or any other independent group—approved by the Forest Stewardship Council.

Tracking Issues

Once the fuel and environmental characteristics of each power source are established, the next step is to associate—or "track"—the output of that unit with customer usage. For example, if a specific plant put 100 million kWh of natural gas fired electricity into the supply system, then some customers, somewhere, use that electricity (after accounting for line losses).

Is it possible to know where the electricity at a customer's meter came from? This simple question has a complex answer because electricity follows the laws of physics, not the computations of accountants. With an interconnected grid, the power flow over the transmission system is ambiguous. About the best one can say is that power is put into the grid at certain points and is taken out at other points. Which generator produced the power that went through a particular customer's meter is, in a physical sense, indeterminate except in a very few cases.

The fact that electrons cannot be traced from a customer to a source has not impaired the ability of power producers and power suppliers to plan their systems, choose what to build and what to buy, inform consumers and others of the supplier's fuel mix or emissions or, most importantly, transact hundreds of billions of dollars of business. For market purposes, it is sufficient to know which firms are selling into the grid, which are buying from it and where losses are occurring.

Long before restructuring entered the lexicon, utilities developed mechanisms and settlement processes to track who generates, who consumes and who buys. Although the details vary according to location, all share a common, basic design. For each buyer, the electrical energy taken from the system must be matched by an amount equal to the buyer's purchases, plus losses incurred in delivering such amounts to the buyer's system by the sellers. This is the basis for payments.

Physical energy flow data is essentially irrelevant to the cash flow for wholesale purchases and sales. Buyers pay for kWh received from the system at a particular place; sellers are paid for kWh delivered to the system. Except for questions of system reliability (and, sometimes, transmission pricing) the cash flow is more important than the energy flow. Cash flows dictate financial risks and rewards of power plant investment, expansion, operation and retirement decisions, and these are the decisions that result in more or less environmental harm.

There are two basic approaches to the tracking—the settlements—or ISO-based approach and the tagging approach. The choice between these two has been discussed at some length, both in the stakeholder meetings in the New England Disclosure Project and more broadly. In part, this is because the choice has significant implications for disclosure and for the electricity marketplace. But the debate has also reflected, at least occasionally, a misunderstanding of the differences between the two approaches. In fact, the approaches are quite similar in several respects and can be made more so depending on how they are designed.

Each of the alternative approaches to tracking begins by offering its own specific tracking convention as an alternative to physical tracking. Conceptually, both approaches begin with

each kilowatt-hour of generation having an associated piece of information called an identification (ID) showing the fuel and emissions characteristics of the generating unit. Under the settlement approach, when a kWh is sold, the ID is sold with it. Under the tag approach, the ID can be sold independently of the kilowatt-hour.

The Settlement (ISO) Approach

The settlement approach uses the data on unit ownership and transactions that must be collected for the electricity market to settle accounts.[22] An earlier National Council report, *Full Environmental Disclosure for Electricity: Tracking and Reporting Key Information,* describes settlement processes generally. The shorter discussion here is based on that report and the more specific aspects of settlements proposed and currently being designed for ISO-NE.

The principal strength of the settlement approach is its plausibility to consumers. If a kilowatt-hour is generated by a natural gas plant, then sold, the buyer has a natural gas kilowatt-hour. Although this falls short of physical tracking, it is as close as it is likely to get.

In New England, the settlement process will need to collect all the information for this tracking approach. Specifically, the ISO-NE will know:

- Hourly generation of every plant in the region.
- The generation firm or firms that are entitled to that output.
- The amount of power each LSE takes off the transmission grid to meet its customers' needs.
- Electric energy contracts within the region or across the regional border where these contracts imply the purchase and sale of electricity.

This information is adequate to link generators to customers and is readily available in the sense that the ISO needs to track it for the electricity market to function.

ISO-NE, in the normal course of its operations, will produce a report—the hourly settlement report—showing the hourly sources of energy for each LSE in New England.[23] This report would show the load of the LSE, the generation produced for it by every generating unit in

22. The settlement process is needed to make certain that those who generate more electricity than they need to serve their customers are compensated by those who take more power from the transmission grid than they put into it.

23. Some LSEs may not participate in the pool directly but will be affiliated with an entity that deals with the ISO on its behalf. For example, a large LSE might have its own loads attributed to its account, together with the loads of one or more small LSEs for whom it is acting as an agent. The large LSE would have its own internal settlement process, which would take into account its own resources and loads as well as those of the other members of the "sub-pool." This internal process presumably would mirror the general ISO-NE process and, to the extent that the ISO-NE process performed tracking, the sub-pool presumably would mirror this as well.

which it had an entitlement (ownership or unit contracts), the amount of any system purchases[24] and the amount of any adjusted net interchange (ANI).[25] In other words, ISO-NE routinely balances the hourly loads of each LSE with its various sources of supply. If its supply sources are short of its load, the difference is balanced by buying ANI. Each LSE source of supply is tracked to a particular power plant or in the case of system purchases and ANI, it is tracked to a supplier whose mix of operating plants is known.[26] With respect to imports, ISO-NE will know on an hourly basis how much of an LSE's load is being met by imports and at least which entity is supplying the power. Depending on how neighboring systems implement NERC policy 3, ISO-NE will know the source of imported power more precisely.

For system contracts, ISO-NE will know the aggregate sources of generation used by the seller to meet the requirements of the system contract. However, if the seller does not provide more information to the ISO, or ISO-NE does not apply agreed upon accounting rules, ISO-NE will not know what portion of the seller's generation the seller intends to use to serve its own load and what portion supplies the system contract. In the absence of some way for the seller to designate the source, a logical accounting rule assumes the seller's load and the system contract both are being met by the average of all the seller's supply sources. Similarly, for sales to ANI, ISO-NE will know the aggregate sources of generation used by the seller to meet the seller's load plus the sales to ANI. If the seller does not provide more information or ISO-NE does not apply accounting rules, ISO-NE will not know the specific sources. Later, proposed modifications to the current settlement process are discussed that will allow sellers to designate the sources of their system sales and ANI.[27]

Understanding the breadth and depth of the settlement system is important for two reasons. It indicates that settlement-based tracking provides a sound foundation for disclosure tracking, and it shows where more flexibility of settlement-based tracking would be useful.

Two limitations of the ISO-NE settlement mechanism are relevant. First, ISO-NE does not currently plan to receive fuel or emission information. We believe that average emission factors for SO_2, NOx, and CO_2 for each plant are adequate for disclosure purposes and can be

24 . In New England, power purchases fall into one of two categories. A "unit" purchase is one where the buyer has a right to a specified portion of the output of a specified generation unit. The buyer would be entitled to power only to the extent the unit operated. A "system" contract is one in which the buyer receives a specified amount of power—say 10 MW—for a given hour, independent of the operation of any specific generation unit.

25. Adjusted net interchange energy sales occur when a participant's generation does not precisely match its load obligations (including losses). For example, if ACME has 100 MW of resources producing electricity in a hour and it needs only 90 MW to serve its customers, it is deemed to be selling 10 MW into the pool (ANI = 10 MW). Conversely, if it has resources of 140 MW but needs 150 MW to serve its customers, then it is buying 10 MW from the pool (ANI = -10 MW).

26. Currently, imports, system contracts and ANI account for about 12 percent, 10 percent and 15 percent, respectively, of total sales.

27. Having the seller designate the source and inform ISO-NE of it is probably simpler and more efficient than developing accounting rules. In most cases, particularly where sellers also serve retail customers, sellers will have an incentive to designate the sources supplying their wholesale system sales and ANI to ensure that these sales do not adversely affect the product mix sold to retail customers.

readily obtained, along with fuel type data from generators, and verified from public sources.[28] We recommend that ISO-NE collect this information directly from generators and combine it with the settlement report information to produce the needed fuel and emission data for each LSE.

Second, the contract options that can be readily administered in the settlement process are very limited. This may not present a problem if all electricity is required to be a single, fungible commodity, but it does begin to present problems as electricity from substantially different sources is viewed by buyers as separate products. We describe the issue here and recommend a solution in the Policy Issues chapter.

ISO-NE will, as part of the settlement process, track very long and complex chains of title. This is needed for its hourly determinations of who owes whom for what. Thus, if A owns a 100 MW plant and contracts to sell the output to B for a year, who sells to C for a month, who sells to D for a week, who sells to E for a day, who sells to F for an hour, ISO-NE will know the full A-B-C-D-E-F chain of title, and it will know that, in a given hour, F owns the output of A's 100 MW plant.

But ISO-NE has thus far designed its system to accommodate only two traditional types of contracts—unit contracts and system contracts. The A-F example above is for a unit contract. For these types of contracts, it is plain to see how the plant's emission rate and fuel type can be tracked. Unit contract have certain drawbacks. For instance, if the plant is unavailable in a given hour, the holder of the contract must contract for backup power from other sources or buy power from the POOL's spot market (called ANI by ISO-NE). In contrast, if A had sold a system contract, F would not be at risk for an outage. A would provide 100 MW to F from A's mix of supply resources.

Suppose F and A agreed that A would sell up to 100 MW, depending on F's load. The contract would specify that the load would be met by available hydro, gas to the extent hydro was unavailable, and system power to the extent hydro and gas were unavailable. This contract has some of the attributes of a unit contract and some of the attributes of a system contract. In effect, this is a system contract in which the parties have designated the sources of supply. As currently proposed, ISO-NE would have trouble administering this contract unless the parties could reform the contract into a series of unit and system contracts. The hybrid tracking system we recommend allows these kinds of agreements to be made for disclosure purposes, without requiring ISO-NE to do any additional tasks.

The Tagging Approach

As noted above, the tagging approach is much like the settlements approach with the principal difference that the IDs or tags that bear fuel and emission data are tradeable independently of the electricity.[29] For example, a firm that owns only nuclear generation might

28. One area where additional information may be required is dual fuel units, where the generator would need to indicate which fuels were being used.

29. A more complete description of tradeable tags can be found in a paper on RAP's website at http://www.rapmaine.org

produce 1 million kWh of nuclear tags in a given period. In principle, this firm could sell its nuclear tags, buy 1 million kWh of hydro tags, then market its power as all hydro. This market for tags is, in some respects, similar to the market for sulfur allowances under the Clean Air Act Amendments of 1990.

A fairly detailed tag proposal was presented by several participants in the New England project. The principal points were:

- Tags would be created simultaneously with generation.
- Tags could be bought and sold independently of any trading in electricity.
- Periodically, perhaps every six months, the tag trading period would close, requiring that all retail sellers have adequate tags to cover their electricity sales.
- At the time of closing, anyone holding tags could choose between using the tags they own to label their sales or turning the tags over to a central tag pool. Anyone needing additional tags would be allowed to draw from the pool. Tags taken from the pool would have the average characteristics of all tags turned into the pool.[30]

Pros and Cons

The tradeability of tags is both its greatest strength and its greatest weakness. Tradeability could create more flexible and liquid markets for both electricity and environmental characteristics than a simple ISO system. Traders can buy and sell electricity (or generating plants) without regard to the representations they make to their customers about the sources of their electricity. In other words, if a firm wishes to market a 100 percent hydro-based product, it need not own a single hydro plant or find a hydro plant from which to buy power. Instead, it merely needs to enter the tag market and buy hydro tags.

At the same time however, this flexibility creates the widely-shared concern that customers may see the approach as fundamentally dishonest. For example, imagine a customer with strong environmental views who hates nuclear power and has a clear preference for hydro and wind power. How might this customer respond when she finds that Acme Electricity has been charging her a relatively high price for 100 percent hydro and wind power even though it generated all its electricity from coal and nuclear sources. Proponents of tags are quick to point out that, under the tag approach, a provider can fairly tell customers that when they purchase X kWh of hydro power the customer can be assured that somewhere in the region a hydro plant generated energy specifically for that customer. However, it is not at all clear that this explanation will be adequate.

30. This feature allows retailers to label their products with a default mix regardless of their actual generation sources or the tags they hold. A similar feature could be added to the settlements approach, although we are not recommending it. See discussion in the Tracking Issues chapter.

Despite this concern, the tradeable tag approach has some distinct advantages, particularly when compared to some versions of a settlement-based approach. In fact, if we could assume away the problem with customer acceptability, tags may be preferred.

Under a settlement-based approach, the owner of an environmentally preferable resource will see the market for its output driven in part by the availability or cost of transmission. This means that any generator's market area cannot extend beyond the area where it can economically wheel (transmit) its output. However, since tags can be shipped at virtually no cost, the market area for clean environmental characteristics will be as broad as we are willing to allow.[31] Thus, it is possible, for example, that wind power from Maine could be available to customers in Rhode Island, even if transmission constraints do not allow the transaction to be made.

The flexibility of tradeable tags may provide other benefits as well. In some settlement-based proposals, certain implicit restrictions are placed on the owners' use of their resources. For example, as proposed in ISO-NE, the only way one could market a product that is heavily hydro is to own significant hydro capacity or to contract with the owners for the output of one or more hydro generators. It is not possible to buy predominantly hydropower from the NEPOOL Energy Exchange, although this ability could be added (see the Tracking Issues chapter).

Despite these positive attributes, because of uncertainty about consumer acceptance we do not recommend using a full tradeable tag approach at this time. Consumer acceptance may not be a long-term barrier, but the risk that poor customer acceptance will undermine disclosure is too high. Our conclusion is bolstered by four additional pieces of information. First, there has been no customer research to test customer reaction to a tag-based approach. We tried to cover this issue as part of the National Council's consumer research efforts, but the complexity of the task was beyond what could be done in the broader-based focus groups. Second, tag proponents apparently have not conducted consumer research, or if they have, they have not made the results available. Third, more than one supplier that opposes tags has said if tags are used, its green products would not be based on tags, and its marketing would include attacks on the credibility of green claims based on tags. Finally, so far as we can determine, a tag-like mechanism has never been used for any consumer product.[32] Before a full tradeable tag mechanism is adopted, it is critical to have reasonable certainty that it will be accepted by customers.

Recommended Tracking Approach

Recommendation: The best solution is to find systems that marry the best features of tradeable tag and settlement-based approaches.

An ideal tracking mechanism would have two primary characteristics. First, it should be accurate and accepted by customers. Second, it should allow market participants broad

31. See the discussion of imports below.

32. Perhaps the closest analogy is the market for tradeable sulfur emission credits under the Clean Air Act Amendments. However, this market was created to allow firms to respond to a congressional mandate, not to allow consumers to choose the power sources they wished.

flexibility in developing products and making business decisions, so long as those products are accurately represented to customers. Neither the settlement-based nor the tag-based approaches appear to successfully meet both criteria.

The best solution is not to pick the lesser of two evils but examine approaches that combine the best features of both. At the stakeholder meetings, we investigated hybrid approaches, focusing on a settlement-based approach that had much of the flexibility of the tagging proposal.

The weakness of the settlement-based approach, as originally conceived, was its lack of flexibility in dealing with system contracts and ANI. Our recommendation includes a method to allow buyers and sellers the flexibility to disaggregate system purchases and ANI. This achieves much of the flexibility of tradeable tags with less risk of poor customer acceptance.[33]

In a simple ISO settlement system, we would assume system purchases and sales through ANI come from each of the seller's units pro rata. Thus, if A sells 100 MW in a systems contract to B, we assume the sources were a prorated mix of A's units that were on line in a given hour. ANI sales would be treated on a similar pro rata basis.[34]

When combined with the limited types of contracts administered by ISO-NE, this pro rata solution is relatively rigid. For example, suppose a generating company that owns several different generators of various fuel types wished to sell the output of a portion of its hydro to an LSE interested in marketing a "green" product. A system contract would not be viable because the buyer would be buying the overall pro rata mix of the generating company, including all the different fuel types. In fact, the only option that would allow the LSE to buy a hydro product would be for the two firms to enter into a unit contract for one or more of the generating company's hydro units. This is problematic because unit sales contracts are becoming increasingly rare in New England. The reason for this is that with a partial unit sale—say 50 MW of a 100 MW unit—it is not clear which firm determines the plant's bidding and operating strategy. Because of this, firms have become less willing to offer unit contracts and instead prefer system contracts. Before restructuring, this was not an issue because plants were under the control of the pool itself, not the individual firms with rights to the output.

We suggest allowing more flexibility for both system purchases and ANI. This could be implemented in an ex ante or ex post manner. An after-the-fact process would have four steps:

- The ISO would produce a draft tracking report periodically, perhaps once a month. This draft would be based on simple pro rata allocation of system purchases and ANI.

33. In this hybrid, the retail seller still would have a contract for power from a generator with the characteristics claimed by the retail seller. This contrasts with tradeable tags, where a connection is not necessary between the power contract and the mix of available sources the seller has to fulfill the contract.

34. Although the pro rata approach is conceptually simple, there may be some computational difficulties if there are a number of circular sales patterns, e.g. A sells to B who sells to C, who sells to A. This problem may be resolvable mathematically or may require adopting some type of allocation convention.

- Firms that purchase from the ANI pool could negotiate with that firms sell to the pool for the rights to claim particular resources that were sold into the pool under step one. That is, suppose a firm bought 100 MWH from the pool in a given month. It could negotiate with a firm that sold 100 MWH of hydro into the pool for the right to claim that the energy it received was hydro. In some respects, this is like tagging. The difference lies in the quantities that can be traded. The firm that sells hydro tags can sell them only to the extent that it sold hydro into the pool. The buying firm can buy tags only to the point that it made pool purchases. Because of this limitation, the customer acceptance advantage of the settlement-based approach is maintained; tags are traded only as part of an electricity trade.

- For system purchases and sales, a similar procedure would be used. A firm that buys under system contracts would have a period of time to negotiate with its sellers to earmark which of the seller's generating units would be credited with providing the power. These negotiations also could occur, at the time the buyer and seller strike the deal for the original system purchase. Again, the only limitation is that trading in attributes can neither exceed the monthly generation of the attribute by the seller nor the amount of energy purchased by the buyer.

- The parties report to ISO-NE the trades they have agreed upon, and ISO-NE issues a final monthly report after taking into account how trading has shifted (including both increases and decreases) the allocation of desirable resources. Parties would not be obligated to report any other details of their transactions, such as the prices at which the transactions took place.

An ex ante approach also is possible. With respect to ANI, all purchasers with an interest in their sources of supply would submit bids (monthly for the sake of simplicity) for power from particular types of resources. The bid price would reflect the value of the fuel source or emission attributes above the market price for ANI energy. For example, an LSE could normally expect to receive some amount of energy from ANI each month. The LSE could submit a bid of, say, 1 mill per kWh to be allocated to any hydro sold to the ANI up to some level. This may be the LSE's ANI purchases. ISO-NE could stack the bids against the resources and allocate ANI supply characteristics accordingly.

Another version of an ex ante simply would have the seller and buyer agree in advance how sources would be allocated to system power sales. For example, if a buyer wants 100 MW of system power and does not care about the source, the seller simply would designate which of its sources were supplying the 100 MW load. If the buyer wanted certain types of supplies to be used, negotiations between the parties would establish the supply sources and the prices. In either event the seller would inform ISO-NE of the allocation in time to be reflected in the regular settlement reports.[35]

35. This would be a straightforward option for sellers that serve retail loads as well as sell in the wholesale market. By designating the sources of system sales and ANI the seller could most easily ensure that wholesale sales did not adversely affect the mix of resources dedicated to retail sales.

The key difference between the recommended approach and tagging is that identification tags would be allowed to be traded only as part of an energy transaction. For example, A could buy 10 MWH of hydro from B only if A bought 10 MWH of electricity. This approach, while similar in a number of respects to the Green Mountain Power proposal, differs in that system power and ANI allocations do not rely on "hourly closing."[36]

Should there be an interim tracking system?
Recommendation: If needed, an interim system can be implemented to track unit contracts and entitlements in the same way as the recommended approach.

As discussed below, we believe that with clear direction from the six New England states, it is possible to have the recommended tracking system in place by the April 1, 1998, date for the new ISO-NE system. In the meantime, or in the event the states wish to give ISO-NE more time (or if more time is, in fact, required by ISO-NE), a tracking and disclosure system based on unit contracts and entitlements can be implemented on an interim basis. While the interim approach described below is less effective than the recommended hybrid tracking and disclosure system, we believe it would still be valuable and credible for consumers who have expressed a strong interest in obtaining uniform comparative information at the onset of retail access. Beginning retail access *without* a uniform disclosure system in place would be far more problematic than dealing with the issues that arise from an interim system.

In the interim system, LSE fuel mix and emissions characteristics would be identified by the LSE's unit contracts or unit entitlements and a regional average value for the LSE's power exchange and system purchases. Unit contracts or unit entitlements information for LSEs will be readily available from ISO-NE even before the new settlement process is in place on April 1, 1998. For LSE's power exchange and system purchases, the generation characteristics will not be reported initially by the ISO, since no tracking process will be in place. Rather, to approximate this information, regional default values for fuel mix and emissions would be developed. This can be accomplished by summing all the region's generation in a given period and subtracting the unit contract purchases or unit entitlements directly assigned to LSEs. Imports would be treated in the same manner as the recommended system.

With the exception of how power exchange and system purchases are tracked, the interim system would be identical to the recommended hybrid. The interim system and final hybrid will share many key attributes, including the development of a database for fuel and emissions information from generation sources, the label format, and customer communication documents such as the Terms of Service. Therefore, an interim disclosure system will provide

36. Relying on hourly closing for system contracts and ANI is possible but we do not recommend it for two reasons. First, the increased precision is probably not worth the added effort, particularly given the general levelof accuracy we believe must be achieved (+/- 10 percent). System contracts and ANI comprise about 20 percent of LSE energy supplies. The likely difference that hourly versus monthly reporting would make on labels is expected to be small. Our settlements consultant has advised us that hourly closing for the allocation of supply sources that make up these sales can be done, but it is significantly easier and cheaper to perform this task monthly. Second, monthly closing is somewhat more flexible, particularly for owners of nondispatchable renewable facilities.

many of the key components necessary for the recommended hybrid system and will provide the necessary foundation that must otherwise be in place to implement the hybrid system.

We recommend that the interim tracking and disclosure system be uniform throughout New England to the greatest extent possible. To that end, we also recommend that development and implementation of the interim system be closely coordinated by New England PUCs and other stakeholders. Finally, the attached model rules specify the period during which the interim tracking system can be used. The end date was included to emphasize that time is being provided to implement the recommended tracking system, not to delay the resolution of key tracking issues.

What about hourly closing for system contracts and ANI?
Recommendation: The proposed hybrid tracking approach uses hourly closing for unit contracts and plant ownership and monthly closing for system contracts and ANI.

The ISO-NE settlements system closes hourly. The following example illustrates what hourly closing means. Assume a firm only owns a single hydro plant. In the first hour, the plant generates one MWH, but the firm's customers consume two MWH. The firm buys the additional MWH from ANI through the pool. In the second hour, the hydro unit generates three MWH, and customers again consume two MWH. Here the firm meets it entire load with hydro and sells its excess into the pool. ISO-NE treats each hour in isolation so the firm supplies 50 percent of its load from hydro and the remainder from ANI in the first hour. In hour two, the firm supplies 100 percent of its load from hydro and sells its excess to ANI. The firm's average fuel mix is 75 percent hydro and 25 percent ANI. Without hourly closing, we would note that, over both hours, the firm generated four MWH from hydro and its customers used four MWH; thus it could report that it met its load with 100 percent hydro.

We do not believe that hourly closing is required for consumer protection and information disclosure. We believe it is adequate to match supplier load and generation over a monthly or even longer period. Yet, because ISO-NE's normal tracking and reporting is already on an hourly basis (at least for plants an LSE owns or has under a unit contract) deviating from hourly closing for these resources would only add an unnecessary step.

As indicated earlier, some modification to the settlement system is necessary for system contracts and ANI. To make the modification, we deviated from hourly closing. Our recommended modification relies on a monthly ex post or ex ante allocation of supply sources to serve system contracts or ANI. With this feature, the firm that bought energy from ANI in hour one and sold hydro to ANI in hour two essentially could recapture its hydro resources.

How should border issues and imports and exports be treated?
Recommendation: Labeling rules for imports should depend on how tracking takes place in neighboring regions. Exported power would be labeled at the pro rata, average mix of the exporting firm.

Power imports from outside New England historically have reperesented a significant portion of the regional energy mix. During the past five years, power imports have increased from roughly 5 percent of the mix to approximately 15 percent. Power imports require special

consideration because less information currently is available from ISO-NE about the sources of generation outside the region. In theory, NERC Policy 3 requires generator to final wholesale buyer tracking of all power purchases and sales between control areas. This means data should be available for all sales to and NEPOOL participants. NERC Policy 3, however, was implemented July 1, 1997, and proablems in the system are still being worked out. Our recommendations for resolving border issues assume that NERC Policy 3 is not fully functioning or that neighboring systems (NY Power Pool, Quebec, and New Brunswick) adopt similar tracking systems and agree to share information.

The treatment of imports and exports also needs to be sensitive to gaming possibilities and policy considerations.[37] The primary considerations are:

- Market flooding and consumer deception. If retail competition and disclosure occur in some regions (or states) but not in others, then the effect will be to depress the value of desirable resources and deprive the exporting region's customers of desirable resources, with no notice or recourse.[38] Suppose in area A there is both retail choice and disclosure and customers have a strong preference for hydro power. In adjoining area B, there is no retail choice or disclosure. Firms in both areas would have an incentive to sell their hydro into area A, since they cannot market it to customers in area B. The effect, then, would be an oversupply in area A that would artificially depress the price. Consumers in area B would have their hydro resources sold; and without retail access or disclosure, they have no notice or recourse.

- Verification problems. The most fundamental rule of a tracking system is that each kWh generated must serve a single kWh of use (ignoring losses). Otherwise, there would be double counting of some generation, and other generation would be lost by the system. Within New England, this should not be a problem. But outside the region, unless there is a similar tracking mechanism in place, there is concern about data quality.

Some parties argued that power imports should be allowed, although it is not clear how they would address the above concerns. In addition, the Massachusetts Municipal Wholesale Electric Cooperative (MMWEC) has a particular concern about the treatment of certain unit contracts it has with the New York Power Authority (NYPA).[39] Other parties felt that imports required special treatment, at least at the present time.

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37. These considerations are, for the most part, common to both the settlements and tradeable tag approaches.

38. It should be noted that the same phenomenon could occur in New England as states move to retail competition on different time schedules.

39. Letter from Jay Dwyer, MMWEC, to David Nickerson, New England Power, June 23, 1997.

40. For similar reasons, we also recommend states consider how to treat purchases from states without full disclosure. If a state or part of a state does not have retail access or disclosure, one option is to assume that retail sales by its regulated generation supplier made outside its exclusive service territory come from its supply mix on a pro rata basis. The issue is resolved in all New England states regardless of the status of retail competition andrequired disclosure. Consumers without retail choice should receive disclosure materials periodically so they know if their monopoly supplier has sold their more desirable resources to surrounding areas that have retail access.

We recommend that, if an adjoining region has a similar tracking mechanism in place and adopts similar disclosure requirements (with or without retail choice) to inform consumers that their resource mix has changed, there is no need to treat imports differently from generation within the region.[40] Where these conditions are not met, power imports would be disclosed by a line in the fuel mix description stating "Imports from outside New England" or "Imports from (the regional source). Most imports would come from New York, Quebec or New Brunswick. If the power were purchased under a contract with a firm outside the adjoining control area, i.e., from the Pennsylvania-Jersey-Maryland pool, it would indicate a "New Jersey Region." Emissions data should reflect the emission profile of the exporting region.

We recommend allowing one exception to the power import rules. Existing unit purchase contracts from outside the region, such as the MMWEC purchase, could disclose fuel mix and emissions based on the characteristics of the units being purchased. Continuation of an existing unit contract cannot reasonably be considered gaming.

Power exports to other regions also need to be considered to protect against local firms exporting their "dirty" power while retaining the cleaner units to be sold at a premium. Exports, regardless of the type of contract, would be at the pro rata, average mix of the exporting firm to regions that do not have similar disclosure requirements.

Should there be a default system power label?
Recommendation: The recommended interim tracking system includes a default option to the extent suppliers rely on system contracts or ANI. The proposed tracking system essentially includes only one limited type of default option.

Several parties suggested it would be desirable to allow firms to report the average, regional fuel and emission mix, excluding those resources dedicated to serving products that do not carry the default label. This default label would be available to any suppliers, whether or not their actual supply mix is known.

Two reasons are presented in favor of a default. First, some suppliers prefer it. Second, it could make the tracking process simpler because many products would share the same label.

There are two problems with a default option, however. First, if a supplier can readily determine its supply mix (i.e. it relies on its own plants and unit contracts), showing a default label instead of actual supplies fails to give consumers accurate information. Second, allowing a default label might make it difficult to expand the tracking mechanism to serve other purposes, such as a generation performance standard (GPS). For this purpose, we assume the GPS to be a requirement that no power sold in a given state be produced from higher-polluting fuels than some specified standard. A default label is not consistent with a GPS if the underlying tracking mechanism lacks unit specific data. One possibility would be a tracking system that keeps track of all units (those within new England as well as those in neighboring systems). Then, after every firm has been attributed specific resources, firms might be allowed to swap their resources for the default system label. Of course, this option would forfeit one of the principal arguments in favor of the default label, simplicity.

The tracking system we propose does not automatically produce a region-wide, average default label (although it could be modified to do so).[41] The recommended tracking system tracks all unit contracts, unit entitlements, system contracts, ANI and imports. The system also allows allocation of supply sources that make up system contracts and ANI on a market basis. At least until better data becomes available, the recommended tracking system does not provide emissions information for most imports from outside the six-state region. (We assume that proponents of a GPS want the system to apply to imports.)[42]

41. Adding a more expanded default option to our recommended system would not be difficult. At the end of a reporting period, each LSE that wanted a default label could contribute its label to a common pool and withdraw a label equal to the weighted average of all of the contributed labels.

42. This report does suggest two features that could be termed defaults, although not in the sense that a firm could choose a region-wide mix in lieu of its own resource mix. Under our recommended approach, any seller or LSE could use a single label derived from the tracking system (i.e., sell only one product) for all its products and thereby avoid any further internal tracking and bookkeeping.

The recommended interim tracking system includes a different default option, although still not as broad as that discussed above. In the interim tracking system, all ANI purchases are the same regional average resource and emissions mix.

Policy Issues

Several policy issues are common to any of the tracking mechanisms we have discussed.

Should disclosure information describe the product or the company?
Recommendation: Use the product approach to disclosure.

The tracking mechanism (regardless of whether tags, settlements or the recommended hybrid approach) determines what resources a supplier or LSE uses to meet total load, as well as the fuels used and the emissions characteristics. This raises the question of whether the firm must use this overall mix to label all its sales or whether the firm should be allowed to package differing percentages of its resources into different products. For example, suppose a firm's resources are 50 percent nuclear and 50 percent natural gas. Under the company approach, it must sell a 50-50 mix to all its customers. Under the product approach, it could develop two or more products, For example, it could sell a 100 percent natural gas mix to half its customers and an all-nuclear mix to the other half.

There are three primary arguments in favor of the company approach. First, some customers are most interested in the total operations of the firm that wants his or her business. The second argument is that a products-based approach will be difficult to enforce. Some mechanism would be needed to ensure that the weighted average of the sales of all of the firm's products was consistent with the overall fuel and environmental characteristics of the firm's sources.

The third argument is that using a company approach means much of the region's existing renewable supply will essentially be removed from the consumer market. This would increase the likelihood that customer demand will lead to the addition of more new renewable energy. The reason is that companies like Northeast Utilities (NU), with significant renewable capacity, would be unable to market "green" energy because consumers would not buy from a company whose label showed large fractions of nuclear and coal supply.

Proponents of the product approach cite five considerations related to their argument. First, in other markets firms are not prohibited by regulation from selling multiple products. In fact, many markets are characterized by firms that sell several products, each directed toward to a specific sector of the market. Second, the company approach would make it difficult for incumbent firms to offer environmentally preferable products. A large, existing company could change its mix appreciably only by selling its existing units or by investing heavily in new resources. The company approach forces each firm to pursue only one market niche. This would discourage large firms from focusing on relatively low-volume markets. Third, the company approach would tend to penalize existing firms that have relatively unattractive resource mixes. Fourth, many generating companies operate nationally or internationally. Should the firm's generation in California or Indonesia be considered when developing the company-wide mix? Finally, the company approach would be difficult, if not impossible, to monitor. A firm that was attempting to avoid the limitation of selling multiple products could adopt several strategies:

- Set up a wholly-owned subsidiary to market a second product.[43]

- Set up a partially-owned subsidiary.[44]

- Enter into a nonownership arrangement with a partner. For example, Acme Genco causes a new marketing firm to be created (with no ownership interest) and sells the rights to several of its units to that firm. The firm then markets power based on the units over which it has rights.

- Enter into wholesale unit contracts with a nonaffiliated entity. For example, if Acme is effectively barred from the green retail market because its mix is predominantly non-green, it can enter into unit contracts and sell its green output to an entity that markets green power at retail. If the market supports a higher price for green power, Acme will receive all or part of the price premium.

Both the company and the product approaches raise enforcement issues, with the enforcement problems of the company approach appearing to be more formidable. This is particularly true since the burden of reconciling all its multiple products can, in the first instance, be placed on the multi-product firm. If it is marketing several source-differentiated products, it will need to be able to demonstrate that each of its products is accurately labeled.

We recommend using the product approach to disclosure. However, assuming suppliers sell more than one product, they will be required to file periodic statements with state regulators and the disclosure administrator reconciling their company-wide fuel and emissions information with the sum of the products they sell. Because some customers are interested in the full activities of firms that want their business, firms also should periodically provide customers with the combined fuel and emission disclosure for all the products sold in New England.[45]

We reach this conclusion for three reasons. First, the company versus product approach to disclosure was explored in several National Council focus groups. We were interested in consumer understanding of the distinction and the level of information that was most desirable. With respect to consumer understanding, we found consumers had little difficulty understanding the company product distinction. Most consumers drew analogies to other consumer markets where firms supply multiple products. Although most consumers wanted

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43. It could be argued that setting up a separate subsidiary should be acceptable, since the subsidiary is, itself,a company. If this argument is acceptable, the product approach should be adopted. If it is acceptable to market various products through subsidiaries, why not simply allow the parent to market a variety of products and save the administrative costs of setting up multiple corporations?

44. If a firm's stock is owned in equal shares by three other companies, how would we attribute the subsidiary's sources to its three parents?

45. This could be done annually and would be a report of the full mix of all products sold in the region by the firm, including any fully-owned subsidiaries. If the firm itself is a wholly-owned subsidiary, it should be included in the company-wide disclosure of its parent, together with any other wholly-owned subsidiary of the that parent. We recognize that this company-wide disclosure is subject to the same gaming problems as company disclosure generally. However, the incentive to play games is reduced or eliminated due to the allowance for product disclosure.

product information, there was no clear or strong preference that information be conveyed one way or the other.[46] The label testing phase of the National Council's research effort will explore this issue in more detail and on quantitative basis.

Second, in light of the consumer research, the gaming and enforcement problems associated with a company approach do not seem to be worth the effort. If consumer research had shown that the product approach led to significant consumer confusion, our conclusion might have been different.

Finally, imposing the requirement that only company-wide information be disclosed creates logical and historical consistency problems. New England has a long history of considering the fuel mix and emissions effect of wholesale unit contracts and has always recognized the fuel mix effect on the buyer and the seller. When, for example, Boston Edison buys a unit contract for Wyman 4 from Central Maine Power (CMP), CMP's sale of Wyman 4 is the same as if CMP sells a product. This raises the legitimate question of why CMP can sell a product to Boston Edison but be barred from selling a similar product to a retail customer in Boston.

The unit contract option also undermines the view that a company approach keeps existing renewables off the market. If NU had to report its mix on a company-wide basis, it would probably enter into unit contracts to sell the output of its renewable capacity to a green marketer rather than forego the opportunity to see to the green market altogether.

Should labels disclose historical or prospective information?
Recommendation: With the exception of some allowances for the unique circumstances of new products and new generating facilities, resource mix and emissions disclosure should rely on historical information.

A label could indicate the resource mix of a product for some recent historical period, or it could focus on the resources a firm expects to use during some future period. Initially, there was wide disagreement in the meetings over which was preferable.

The advantage of prospective disclosure is that, if it is accurate, it will target the product the customer will be buying. Proponents argue that this is truly what is relevant and that historic resource mix is only of academic interest. There is also the issue of what a new firm or product, with no history to rely on, would disclose under the historic approach.

Proponents of historic disclosure argue that prospective disclosure presents almost unlimited opportunities for gaming. The only entity capable of predicting a product's future mix is the firm that produces it. Prospective disclosure is seen to allow firms to make largely unverifiable claims and to place those claims on a government-sanctioned label where there will be the appearance of authority. In general, the FTC requires historical data for claims verification, in large part because this allows objective evaluation.

46. We do not suggest that company level information is not of significant importance to some consumers. *Coop America Quarterly* is one of several consumer magazines that routinely gives consumers information about a company's performance in a wide range of areas.

From these polar positions, the stakeholders generally supported historical disclosure, with some allowance for the unique circumstances of new products and generators. We recommend disclosure be based on a 12-month, rolling average of historic performance, updated quarterly.

For products based on new sources of generation, a projected label could be used initially. This would be replaced with historical performance as it becomes available. The label also would indicate that the information was based on a projection.

The model rule also includes a reconciliation provision that periodically compares an LSE's mix of historical supply sources to the mix of products it sells to consumers. The LSE is required to keep any difference between these mixes to 10 percent.

Where should the label appear?
Recommendation: The label should be widely available.

The label will be useful to customers only if they have access to it. A subcommittee of the stakeholder's group considered this issue and proposed that the label be widely available. Specifically, the label should be included in monthly bills, written advertising materials, direct mail marketing materials and Internet advertising. In the case of telemarketing, the subcommittee also suggested that customers be informed that information about price, fuel use and emissions is available and that they be given the option of either listening to abbreviated information over the phone or receiving a written copy of the label by mail or fax.

Providing the label with monthly bills requires further discussion. First, the most persuasive reason to provide the label in or with monthly bills is so consumers have the information more readily available when they are solicited by competing suppliers. On the other hand, competing suppliers will know each other's labels and they could give consumers the comparative information directly. In this case, sending the consumer the label quarterly is probably adequate. In addition, LSEs should be given the option of providing the information to customers directly, rather than requiring that it be included in bills sent out by others. It also is conceivable that some customers will be billed electronically, so inclusion in the monthly bill may not always be feasible. Therefore, we recommend that an updated label be sent to consumers quarterly with (or on) their bills, if bills are mailed. Otherwise, they should be sent in a separate mailing.

We recommend that labels appear in the following places:

- *Bills.* Labels should be placed on bills or be sent to consumers quarterly.

- *Written advertising materials describing one or more products.* The label would not be required in image ads on television or radio. It also would be desirable to exempt print ads that are too small to allow a legible label to be included.

- *Direct mail marketing materials.*

- *Telemarketing.* Customers should be informed that information about price, fuel use and emissions is available and be given the option of either listening to abbreviated information over the phone or receiving a written copy of the label by mail or fax.

- *Internet.* The label should be disclosed in Internet advertising. It could appear on a separate page, so long as a readily identifiable icon was available to access that page.

- *Contract.* The label should be included in any contract or other formal explanation of terms that is provided to the customer.

What information is needed beyond the label?
Recommendation: All additional consumer information should be provided in a single document entitled Terms of Service. This should be provided to the customer at the time of the purchase agreement and annually thereafter and should include information about the following: price and other material contract terms, consumer rights, substantiation of marketing claims and environmental effects.

The label is designed to provide a concise source of the information a customer would find most useful in comparing products; it will not provide all the information a consumer needs to be fully informed about the product. A more complete description of the terms by which the product is offered and the consumer protections applicable to the purchase also are required. The question of what information is needed beyond the label and the format in which it should be provided was considered by the consumer interface committee. It is also the subject of ongoing research as part of the National Council's consumer information research project. The recommendations here draw upon the work of both, but are not yet synthesized into a single document. A draft of the National Council's report on this topic with a recommended disclosure document is expected this fall.[47]

Several formats have been suggested to complete the disclosure of consumer information beyond the information on the label. Most frequently considered formats are: "back of the label," prospectus and brochure. Our recommendation is that all additional consumer information be provided to the customer at the time of the purchase agreement in a single document entitled Terms of Service and annually thereafter in the customer's bill. Whenever any material terms are changed, a new Terms of Service should be provided to the customer.

In most transactions, the customer is likely to agree to accept a service either by telephone or in response to a mail solicitation. If customers do not have the Terms of Service at the time of the agreement, they should be given the right to cancel the contract, without penalty, for up to three days following receipt of the contract. This right to cancel should be printed in bold letters on the Terms of Service.

The Terms of Service should include the label and also provide additional detailed information in four areas:

47. The stakeholders meetings spent only a few hours on these and related issues.

- Price and other material contract terms
- Consumer rights
- Substantiation of marketing claims
- Environmental effects

The Terms of Service should be written simply and avoid terms not easily understood by the public. For example, regulatory and utility insiders tend to use the words "generation" or "energy" to denote the competitive product, but customer research has revealed that the word "electricity" is best understood by the ordinary purchaser. The Terms of Service and label should contain the same language used when the customers initially agreed to purchase from the supplier.

The Terms of Service may be issued either by a seller that provides combined electricity and delivery services or by a competitive seller of electricity services. It is not intended to be issued by a seller that offers only delivery services. The Terms of Service for a regulated distribution company that does not sell competitive services will continue to be subject to ordinary regulatory jurisdiction.

Price and Other Material Contract Terms

Several explanations of price and contract terms need to be clearly delineated in the Terms of Service.

- *Itemized prices.* Prices should be stated in standard units for each service or product. Where a competitive generation seller also is providing delivery service, the prices for all regulated and unregulated services provided should be shown. Customers should be informed that the actual electricity price they will pay will vary, depending upon the amount and timing of use.

- *Structure of price offers.* Which components are fixed (i.e., a customer charge)? What prices will be charged for energy (and demand)? How, if at all, do these prices change depending on the volume of use? Are there price variations based on time or season of use? Any feature of the price design that is not fixed in a single, flat kWh charge should be explained so a customer will have a reasonable grasp of the price design.

- *Conditions under which prices are subject to change.* For example, if the electricity price is fixed for a period of time, the time period should be clearly stated. If the price will vary according to a spot market price or some other index, the formula or criteria for determining the change should be described.

- *Origin of customer's electricity.* Customers need to know that electricity comes from the mix of sources dispatched into the grid and that their individual choice of supplier will determine the fuel mix used to deliver electricity into the grid on the customer's behalf. An explanation might read as follows:

> The electricity you consume comes from the New England power grid. It includes electricity from many power plants. The grid transmits electricity throughout the region, as needed to meet customer requirements. When you choose an electricity supplier, that supplier will add electricity to the grid to match your needs. There is no way to know the physical origin of the electricity you actually receive at your meter. Nevertheless, your choice of supplier will determine the fuel mix and emission characteristics of the electricity your supplier provides to the grid to meet your electricity requirements. The pie chart on the label shows the fuel mix used by the electricity supplier during the most recent 12 months. The air emissions released by this fuel mix are shown at the bottom of the label.

- *Contract length.* The Terms of Service should state the length of the contract, with start and end dates, along with payment due dates. The Terms may need to be printed with blank spaces for start and end dates, similar to consumer credit applications. Spaces can be filled in when contracts are entered. Any event that will terminate the contract, such as the customer moving away, should be clearly described.

- *Fees and penalties.* What are the fees for late payments, charges for bad checks and penalties for contract cancellation? What other fees and penalties are there?

- *Payment allocation.* How are bill payments allocated between regulated and unregulated services?

- *Deposit conditions.* What deposits are required? How is interest paid on the deposit? How is the deposit recovered? Under what conditions is a deposit forfeited?

- *Separate billing.* Unless a single bill is issued for both generation and delivery (transmission and distribution) services, there also should be a statement printed in bold letters indicating that this bill is for generation (energy) services only and that the customer will be billed separately by the local utility for delivery of services.

- *Customer service.* Who should be called to report service quality or outage problems?

Consumer Rights

The Terms of Service must clearly and prominently give information on consumer rights.

- *Right to rescind the transaction* within three business days, along with the toll-free number.

- *Bill dispute*. How can a customer dispute a bill with the supplier? This should include the supplier's toll-free telephone number, a statement of the customer's right to refer the dispute to the public utilities commission (or other public agency with jurisdiction) and the toll free number of the commission (or other appropriate agency).

- *Standard offers or default service.* Customers need to know about standard offers or default services, where they should call to receive these services and any rights regarding financial assistance or energy management services.

- *Protection against disconnections.* What additional rights and protection exist for customers who are threatened with disconnection? These should appear on the disconnection notice, since this is the time and place most useful to the customer. (This paper does not describe the disconnection notice.)

Market Claim Substantiation

The supplier may make a variety of substantive claims about its product or services. Factual claims such as "renewable energy," "union made" or "made in New England" should be explained with enough detail to allow the ordinary customer to understand the basis for the claim. In the case of "renewable energy," a description of the generating source and its location should be included. For "union," a description of the power plant, its location and the associated unions should be given.

Environmental Information

A brief description of the major air pollutants disclosed on the label should be provided. The following format was suggested by the U.S. EPA.

- *Emissions—Description of Pollutants.* You have been provided with information about the three major air pollutants. The production of electricity releases other air pollutants and has other nonair- related environmental effects.

- *Sulfur Dioxide (SO_2)* is formed by combustion of fuels that contain sulfur, primarily coal and oil. Major health effects associated with SO_2 include asthma, respiratory illness and aggravation of existing cardiovascular disease. SO_2 combines with water and oxygen in the atmosphere to form acid rain as well, which raises the acid level of lakes and streams and accelerates the decay of buildings and monuments.

- *Nitrogen Oxides (NOx)* form when fossil fuels (e.g., oil, coal and natural gas) and biomass are burned at high temperatues. They contribute to acid rain and ground-level ozone (or smog), and may cause respiratory illness in children with frequent high-level exposure. NOx also contributes to pollution of lake and coastal waters which is destructive to fish and other animal life.

- *Carbon Dioxide (CO_2)* is released when fossil fuels (including oil, coal and natural gas) and nonsustainable biomass are burned. CO_2, a greenhouse gas, is a major contributor to global warming.

The information about emissions is intended to inform customers about the effects of the production of electricity on air quality.

Are legal questions raised by disclosure?
Recommendation: Commissions and state legislatures should exercise care in crafting a disclosure mechanism to reduce susceptibility to legal challenge.

Two members of the stakeholders group—Chris Kallaher of Energy Research Group representing Edison Electric Institute and Michael Stoddard on behalf of the Conservation Law Foundation— formed an impromptu subcommittee to consider four legal questions raised by various disclosure proposals: Does mandatory disclosure constitute "forced speech" in violation of the First Amendment? Does implementation of disclosure violate the Commerce Clause? Do aspects of information required for meaningful disclosure raise issues of confidentiality? How might a disclosure mechanism compare and overlap with the existing Federal Trade Commission framework for preventing deceptive trade practice? Three memoranda presenting the research on these issues were distributed during the stakeholder meetings and a summary presentation also was made. Stoddard's research indicated that the legality of any proposal would depend on the facts and the process by which it was adopted. To reduce susceptibility to any possible legal challenge, commissions and state legislatures should exercise care in crafting a disclosure mechanism.

Although it is not possible to do full justice to these memoranda in a brief summary, it is useful to present a few highlights. A key element of whether disclosure would constitute "forced speech" is how the state articulates a logical and substantial interest in disclosure. Here the connection between disclosure and consumer protection, lower pollution levels and resource diversity are important state interests. States also should take care to ensure that the disclosure requirements are not too broad or burdensome.

Administrative Issues

Administratively, disclosure requires that the following four tasks be performed:

- Develop a list of fuel sources and emissions for each resource.
- Oversee and perform the tracking functions.
- Ensure, through periodic spot checks, that the disclosed price, fuel and emissions information is accurate.
- Modify the disclosure system as necessary and resolve disputes that arise.

These functions might be performed by the same entity, or they could be divided among two or more bodies. Related to these functions are issues of cost and cost recovery.

The first two tasks have been discussed at some length earlier in the report. We recommended that the required emission information be reduced to a single emission rate for each pollutant at each plant. This information, as well as the type of fuel used in each facility, should be based on the data reported to federal and state environmental regulators and reported by each generator to ISO-NE. We also recommended that ISO-NE perform and oversee the tracking functions.

The third task ensuring that data is accurate should, in many cases, not require major effort by the administrator. For many products—food is a good example—checking the accuracy of disclosure or marketing statements is often the responsibility of other market participants. For example, if I suspect that my competitor's yogurt has more fat than the label indicates, I can hire an independent lab to test his yogurt and bring an action against him if that is called for. This same mechanism will be partially, but not completely, effective for electricity disclosure. The key issue is whether competitors can easily confirm or refute each other's statements. For price disclosure, this mutual monitoring probably will be effective, but this mechanism may not work as well for fuel and emissions disclosure. First, although fuel and emissions of each generator should be readily available, the tracking information might not be. If it is not, the administrator—not the competitor—will need to take primary responsibility. Second, even if tracking information is available, mutual monitoring probably will not be possible when individual firms offer multiple products. Tracking information would be adequate to allow a firm to know, in aggregate, the resources of its competitors, but it would not be able to check for double counting without knowing the total sales of each of the competitors' products. This information presumably will be competitively sensitive and, therefore, not available for purposes of mutual monitoring. The administrator must have access to this product sales data, but only under protective arrangements that ensure the data is not disclosed.

The fourth task—modifying the disclosure system as necessary and resolving disputes—also requires elaboration. Even if the initial disclosure mechanism is perfect, it still must respond to the evolution of the market. For example, if a new generation technology becomes available, some entity needs to decide whether a new fuel type is created or whether the technology relies on a fuel from an existing category.

At one extreme, we could decide that the disclosure mechanism could be modified only by holding regulatory proceedings in each New England state. On the other hand, it may be more practical to allow the administrator to resolve most or all these issues, perhaps in consultation with a committee of representatives of some or all of the region's PUCs.

Who should be the administrator?
Recommendation: If ISO-NE can demonstrate both interest in and a commitment to protecting retail customers, it should serve as the administrator.

The most obvious candidate for the role of administrator is ISO-NE. If the recommended tracking proposal is adopted, the ISO must have a role in tracking. Beyond that, having the ISO as the administrator has several other advantages. It already exists as an institution, so no new entity needs to be created. It already handles a wide variety of confidential data and, presumably, the same protections could be extended to the confidential data associated with disclosure. In addition, the ISO already has a regulatory role in that it is dedicated to protecting against market power abuses.

There are three reasons the ISO might not be a good choice: The ISO has embarked on a very aggressive internal restructuring effort, and now may not be a good time to add new duties; it is not clear that the ISO wants the job; and, most fundamentally, the ISO simply may not have the required level of independence at this time.

To be truly effective, the administrator of the disclosure system (like all functions of the ISO) must be dedicated to protecting the interests of retail customers by ensuring, at the very least, that customers are being provided with accurate and timely information. It cannot identify itself with suppliers' interests. Policy makers in New England will need to decide whether ISO-NE has the necessary independence.

Some other entity also could be charged with the role of administrator. Perhaps this could be done under the auspices of NECPUC, through the New England Governors' Conference or by some private entity.

If the problems discussed above can be resolved, we recommend that ISO-NE be the administrator. We recommend that the states begin discussions with the ISO board of directors to investigate the ISO's interest in the role and to consider the issues of independence and resource availability.

How are tracking and disclosure services provided most cost effectively?
Recommendation: The administrator, after determining the cost of tracking and disclosure, should decide whether this function is better performed in-house or by a private contractor.

Tracking and disclosure are not without cost. We have attempted to determine the range of costs and schedules for ISO-NE to implement the recommended tracking system. ISO-NE has not directly provided any cost or time estimates except to say that it will implement no additional requirements until after April 1, 1998. At an early meeting, Paul Shortly of ISO-NE said the set-up costs might range between $3 million and $5 million. ISO-NE staff also have

subsequently indicated there are no specific cost estimates, partly because they have not received a specific tracking proposal that has been agreed upon by all six states.[48]

RAP retained the services of a firm that has expertise in tracking systems for gas, oil and electricity to help us understand the tracking capabilities of ISO-NE, the modifications that would be needed for disclosure purposes, and to provide an independent assessment of the cost and time needed to implement the disclosure recommendations. The consultant met with the staff of the ISO-NE and had several follow-up telephone conversations with ISO-NE staff and their software contractors.

Because the consultant already provides these types of services to ISOs, she could provide an estimate of what the firm would charge to take the monthly ISO-NE settlement report, combine it with fuel and emission data and provide a monthly disclosure report to each LSE. The preliminary estimate is that the firm could provide the services for about $50,000 per month, a fraction of what it would likely cost ISO-NE. There would be no up-front or software development charge. If ISO-NE could provide the service for less, it should do so. On the other hand, if its costs are higher or it lacks the personnel or financial resources, it should be encouraged to find a firm with expertise in this area.

How will disclosure requirements be adopted and enforced?
Recommendation: The proposed model rules should be adopted by each state commission. Labeling and disclosure requirements should be established as a condition of a retail seller's license. Compliance failure should result in sanctions and penalties.

The obligation of electricity sellers to provide a label and Terms of Service are proper conditions to maintain a license to sell electricity at retail. Each New England state intends to have a licensing requirement for all retail sellers of electricity. The licensing requirements usually are not complex, but they should include the obligation to label and disclose product information in the agreed-upon, standardized format.

To achieve the desired regional uniformity in labeling requirements, it makes sense for the requirements to be included in common commission rules adopted in each state. State rulemaking processes (simultaneous if possible) will allow for public hearings on the labeling and disclosure requirements. They also would allow the commissions of each New England state to track the progress of the labeling requirements in each of the other states. Appendix D includes model rules reflecting the recommendations in this report.

The labeling and disclosure requirements should be established as a condition of maintaining a retail seller's license. Failure of sellers to comply should result in sanctions and penalties and, in cases of aggrieved failure, loss of license. It is important to have intermediate penalty steps, short of loss of license, as well. Penalties that are too severe can be too blunt a tool to achieve compliance, and the point is to achieve compliance.

48. The issue of cost has been explored in consumer focus groups. Consumers understand that providing the information they want has a cost that ultimately will be reflected in the price they pay. At $5 million per year, an amount that appears much too high, the cost of disclosure is .004 cents per kWh—or about 2 cents per month—for a typical consumer. This is well below what consumers say they would pay for the information.

In addition to the jurisdiction a state utility commission will have over labeling and disclosure under its licensing authority, some existing state and federal laws also will apply to labeling and disclosure. State attorneys general will have jurisdiction under each state's Unfair Trade Practices Act (mini-FTC law), and the FTC itself will have jurisdiction under the FTC Act. This shared jurisdiction is true of most commercial transactions, including many types of food and product labeling. State attorneys general and the FTC, as practical matter, can be expected to defer to rules and enforcement decisions adopted by state utility commissions in those states where the utility commission actively oversees retail electricity product labeling and disclosure.

Other federal laws, enforceable by the FTC and by the U.S. Justice Department—such as The Equal Credit Opportunity Act, The Fair Credit Disclosure Act and The Fair Debt Collection Act—also are expected to apply to the retail sale of electricity, but should pose no problems or conflicts with the state utility commission labeling and disclosure requirements that are considered here.

Next Steps

With the establishment of a multi-state, staff team working on disclosure issues, the six New England states already have taken an important step toward developing uniform rules that are applicable region-wide. To achieve uniform and enforceable disclosure requirements in the region, we recommend both that the commission staff team start with the model rules included in this report, modifying them as necessary, and that each state initiate a rulemaking proceeding based on a uniform proposed rule. Each state should require that parties filing comments on the rule file a copy of their comments in every other state in the region. The PUC staff team should consider the comments filed in all states and, to the extent possible, recommend a uniform final rule.

Appendix A. Participants and Attendees, New England Disclosure Project

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Arthur Pearson
Rebecca Bachelder
Bob Rossignol, Alternate Power Source
Julie Hashem, Barakat & Chamberlin Inc.
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Suzanne Daycock, CEED
Central Maine Power Company
Patricia Hart,
James H. Fisher
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Neil O'Brien
Neal Costello
Bob Granquist, Connecticut Department of Public Utility Control
Conservation Law Foundation
Mark Bennett
Lew Milford
Michael Stoddard
Joseph Chaisson
Alyse Gray, Continental Energy Corp
Douglas Short, Douglas Short Consulting Inc.
Malcolm Ticknor, Duke Louis Dryfus
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Larry Alexander
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Gillian Wright, Harvard University
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Geoff Keith
Michael Bradley
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Gary Milbury,
Andy Bodnorik
Jack Ruderman, New Hampshire Governor's Energy Office
Jeremy Ladd, NHDES-ARD
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Mark Kowal
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Harvey Tress
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Stephen Boksanski, Office of Senator Bernstein
Jeff Palumbo, OLDESNE
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Jim Booth, R.W. Beck
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Karina Lutz, Sierra Club Rhode Island Chapter
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Vermont Department of Public Service
Deena Frankel
Tom Dunn
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Appendix B. New England Governors' Conference Resolution

A RESOLUTION IN SUPPORT OF CUSTOMER "RIGHT TO KNOW" AND PRODUCT LABELING STANDARDS FOR THE RETAIL MARKETING OF ELECTRICITY IN NEW ENGLAND

WHEREAS, millions of New England consumers will have the opportunity to choose among competitive electricity generation suppliers as early as next year; and

WHEREAS, the production of electricity imposes substantial environmental impacts; and

WHEREAS, informed customer choice depends on clear and uniform disclosure of facts related to the price, fuel source, and environmental characteristics of their electricity purchases to understand the implication of their product choice and to allow product comparisons; and

WHEREAS, the New England Governors' Conference, through its recent sustainable energy report, developed in conjunction with the six New England states and the U.S. Environmental Protection Agency, issued a recommendation for consistent labeling across the region by electricity suppliers; and

WHEREAS, consumer "right-to-know" measures are now being considered in several New England states, and coordinated research could assist the states by developing minimum, uniform standards for each state's consideration;

NOW, THEREFORE, BE IT RESOLVED, that the New England Governors' Conference Inc. fully supports current efforts initiated by the national Council on Competition and the Electric Industry and the New England Governors' Conference to develop enforceable, uniform standards for the form and content of disclosure and labeling that would allow retail and wholesale consumers to easily compare the price, fuel and emissions characteristics of potential electricity purchases; and

BE IT FURTHER RESOLVED, that the New England Governors' Conference Inc. encourages state officials to participate in the research effort and seek consensus so that consumers across the region, when retail choice is available to them, will have the benefit of consistent, easily understandable information regarding the electricity they purchase.

ADOPTION CERTIFIED BY THE NEW ENGLAND GOVERNORS' CONFERENCE INC. on June 3, 1997.

Appendix C. NARUC Resolution

RESOLUTION IN SUPPORT OF CUSTOMER "RIGHT-TO-KNOW" AND PRODUCT LABELING STANDARDS FOR RETAIL MARKETING OF ELECTRICITY

WHEREAS, at least 30 million consumers in six states will begin choosing among competitive electricity providers in early 1998 and retail access to competing electricity suppliers is under consideration in many other states; and

WHEREAS, electricity purchases make up a significant portion of the budget of many households; and

WHEREAS, the production of electricity imposes very substantial environmental impacts; and

WHEREAS, pilot retail access programs have shown that customer confusion and misleading claims are highly likely; and

WHEREAS, clear and uniform disclosure will promote efficiency through informed product comparisons; and informed customer choice cannot occur in a retail electricity market without full disclosure of all relevant and important facts; and

WHEREAS, the desirability and feasibility of such disclosure is clearly established in nutrition labeling, uniform food pricing, truth-in-lending and many other federal consumer protection programs; and

WHEREAS, the National Association of Regulatory Utility Commissioners (NARUC) at its November 1994 meeting adopted a resolution on competition and stranded benefits calling for new proposals to preserve environmental and diversity benefits in a more competitive marketplace; and

WHEREAS, The NARUC at its July 1996 meeting adopted principles to guide the restructuring of the electric utility industry which included market-based mechanisms to promote effective consumer choice and to preserve renewable resources, resource diversity, and environmental protection; now therefore be it

RESOLVED, that The National Association of Regulatory Utility Commissioners (NARUC), convened at its 108th Annual Convention in San Francisco, California, believes that the electric industry should facilitate informed customer choice that will promote efficient markets, resource diversity, and environmental quality; and be it further

RESOLVED that the NARUC supports initiatives leading to minimum, enforceable, uniform standards for the form and content of disclosure and labeling that would allow retail and wholesale consumers easily to compare price, price variability, resource mix, and environmental characteristics of their electricity purchases; and be it further

RESOLVED that the NARUC urges states adopting retail direct access programs to include enforceable standards of disclosure and labeling that would allow retail consumers easily to compare the price, price variability, resource mix, and environmental characteristics of their electricity purchases.

Appendix D. Draft Model Disclosure Rule

THIS DRAFT RULE IS INTENDED TO PROVIDE THE FRAMEWORK FOR A NEW ENGLAND-WIDE DISCLOSURE RULE. IT DOES NOT REPRESENT THE ONLY WORKABLE RULE OR EVEN THE ONLY RULE THAT GENERALLY WOULD BE CONSISTENT WITH THE THRUST OF THIS REPORT. WE RECOMMEND THAT THE COMMISSION STAFF TEAM BEGIN WITH THIS RULE, MODIFY IT AS NEEDED, AND RECOMMEND A UNIFORM PROPOSED RULE FOR ADOPTION BY ALL SIX NEW ENGLAND STATES.

I. Purpose.

The purpose of this rule is to provide customers with information to assist in comparing competitive electricity products.

II. Definitions.

A. Adjusted net interchange (ANI)—As defined in the NEPOOL agreement (sales to and purchases from the competitive energy market).

B. ANI provider—A generating company that provides energy to ISO-NE in excess of its obligations and is compensated for that energy as ANI.

C. AP-42 emission factors—Emission factors found in the U.S. Environmental Protection Agency's *Compilation of Emission Factors, Volume I: Stationary Point and Area Sources,* AP-42, January 1995.

D. Biomass—Fuel derived from agricultural or forestry products or byproducts,

E. Bundled services—A product that includes an electricity product and one or more other products, where the customer does not have the option to purchase electricity without the other product or products.

F. CEMS—Continuous Emissions Monitoring System, as defined in the Clean Air Act Amendments of 1990 and associated U.S. Environmental Protection Agency rules.

G. Certificate—The certificate an LSE must have to sell electricity products to retail customers.

H. Cogeneration facilities—Electricity generation facilities where a portion of the heat input is used for purposes other than electricity generation.

I. Contract—The written or oral contract between an LSE and its customer.

J. Dual fuel generators—Generators that are use two or more fuels for generation, where no single fuel provides 95 percent or more of the total heat input.

K. Electricity product—All an LSE's retail electricity sales that are characterized, at any point in time, by the same label and Terms of Service.

L. Energy efficiency products or services—Any products or service that reduce a customer's electricity use below what it otherwise would be.

M. Fixed charge—Any charge an LSE assesses its customers for electricity that does not vary with the energy or peak use of the customers, e.g., a customer charge.

N. Fixed price—Any fee that does not vary over the term of the contract, e.g., an LSE offers to sell electric energy for 3 cents per kilowatt-hour for the entire term of a multi-year contract.

O. Flat energy charge—A charge for energy that does not vary according to the amount of energy consumed, e.g., 3 cents per kilowatt-hour for all energy consumed in a given month.

P. Hourly settlements—ISO-NE's practice of balancing generation and use of electricity in each hour for purposes of balancing loads and resources and settling accounts.
Q. ISO-NE—The independent system operator for New England.
R. Label—Information described in this rule that must be disclosed to customers.
S. Load serving entity (LSE)—A firm or individual engaged in the business of providing electricity for retail sale to customers.
T. New England region—The region comprised of the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.
U. Sub-pooling—A situation where an LSE does not participate in the ISO-NE process directly, but has another entity act as its agent.
V. Storage—A facility that stores electricity, directly or indirectly, for future use, e.g., pumped storage, compressed air storage and batteries.
W. Reasonable basis—A basis derived from competent and reliable as opposed to anecdotal evidence.
X. Regional average emissions—The total amount of SO_2, NOx, and CO_2, respectively, produced by generators physically located in the New England region, divided by the total generation of those plants, adjusted for line losses on the transmission system.
Y. Regional load profile—The average hourly, weekly and seasonal load shapes of customers in New England.
Z. Resource mix—The fuels, as defined in section V.E.3.b, used by a firm to meet its electric energy loads.
AA. Sale inducements—Marketing incentives given to customers to induce them to take or continue service from an LSE.
BB. Spot prices—A short-term energy price set by market forces. Examples include the ISO-NE market clearing price and a price set by trading in some other commodity market.
CC. System power (contract)—A bilateral contract between two parties doing business in New England for wholesale power where the contract is independent of the operation of any specific generating unit.
DD. Terms of service—A disclosure of certain aspects of the contract between an LSE and its customer.
EE. Unit power (contract)—A bilateral contract between two parties doing business in New England for wholesale power where the contract is contingent on the operation of one (or more) specific generating unit (s).

III. Disclosure Requirements for Retail Sellers

A. Each LSE may sell one or more electricity products.
B. Each electricity product sold to consumers must have an associated label and Terms of Service.

IV. Marketing claims

A. General.
1. Any person making an expressed or implied marketing claim concerning an electricity product must, at the time the claim is made, possess and rely upon a reasonable basis to substantiate the claim.

B. Claims based on historic performance.
1. LSEs making expressed or implied marketing claims concerning any aspect of an electricity product included in the label or terms of service described in sections V. and VI. below may substantiate the claims with the information required to be disclosed by this rule.

C. Claims based on projected performance.
1. LSEs may make expressed or implied marketing claims relating to their projected performance provided that, at the time the claim is made, they possess and rely upon a reasonable basis for substantiating the claim. LSEs that make such claims must provide customers every six months with updated, historical performance that clearly compares prior projected performance with actual performance. If the actual performance differs from the projected performance in a material way, the LSE shall provide the customer
    a. A brief explanation for the difference, and
    b. A notice that, as a result of the difference, the customer has the right to change suppliers without incurring any transfer charge.

V. Label. Information

A. General. Label information shall:
1. Be in the form shown in Figure 1 in the body of the paper, to the extent practical.
2. Be provided in a clear and conspicuous manner.
3. Be printed in compliance with the following minimal font sizes:
    a. The title shall be at least 10 point and 2 points larger than headings
    b. The headings shall be at least 8 point and 2 points larger than sub-headings;
    c. Subheadings and other text shall be at least 6 point.
4. Indicate the date on which the label information was compiled.
5. Be updated at least every three months.
6. Be readily available, including:
    a. Printed in a prominent location in all written marketing materials that describe one or more electricity products, including newspaper, magazine, and other written advertisements; direct mail materials; and electronically-published advertising, including Internet materials.
    b. Provided in any service contract or other written explanation of service terms provided to customers.
    c. Provided to customers at least quarterly.
    d. Available to any person upon request.
    e. Where products are marketed in nonprint media, the marketing materials shall indicate that the customer may obtain the information upon request.

B. Label title.
1. Labels intended for residential customers shall state “Electricity Facts—Residential Customers” centered at the top of the label. Labels intended for commercial customers shall state “Electricity Facts—Commercial & Industrial Customers” centered at the top of the label.

C. Average price section.

1. General.
    a. Average price information shall be included in the labels for all consumers with connected loads under 100 kW.
    b. Unless otherwise required or excepted by this rule, each label shall display the price information specified in this section.
2. Average price heading.
    a. The average price heading shall state "Average Price."
    b. A subheading shall state "Average Price (cents per kWh) for varying levels of use. Prices do not include charges for delivery service."
3. Average price information.
    a. Average prices shall be shown for four levels of use. The average price for each usage level shall be the total generation cost for the specified usage level, divided by the kWh for the particular usage level.
        (1) Residential. Average prices for residential consumers shall be shown for usage levels of 250, 500, 1,000 and 2,000 kilowatt hours per month.
        (2) Commercial. Average prices for commercial consumers shall be shown for 1,000, 10,000, 20,000 and 40,000 kWh per month.
    b. A subheading shall be printed below the average prices stating one or more of the following:
        (1) If prices vary by time of use, including seasonal prices, the statement shall read "Your average electricity price will vary according to when and how much electricity you use. See your most recent bill for your monthly use and the Terms of Service or your bill for actual prices."
        (2) If prices vary only by volume of sales, including prices that have a fixed charge and a flat energy charge, the statement shall read "Your average generation price will vary according to how much electricity you use. See your most recent bill for your monthly use and the Terms of Service or your bill for actual prices."
        (3) If prices do not vary by time of use or volume (the average prices are the same as actual prices), no statement need be shown.
        (4) If the average electricity price includes energy efficiency products or services delivered to the consumer, the LSE has two options:
            (a) The average price can be the same as if there were no efficiency products or services delivered to the consumer, or
            (b) The average price can be adjusted to reflect the energy savings, e.g., if energy savings are 10 percent at a given usage level, the average energy price would be reduced by 10 percent. To invoke this option, the savings figures must conform to rules to be adopted by the commission. On the label, the statement shall read "The *Effective* Average prices have been reduced to reflect estimated electricity savings from energy conservation services."

c. Except as allowed for bundled services in subsection F below, prices shall include generation prices only. Prices shall not include any local connection or delivery charges.
d. Average prices for time-of use-and seasonal prices shall be based on regional load profiles for each customer class.
e. Average prices for service based on spot or other variable prices shall be shown based on the average prices that would have been charged in the last month of the prior quarter. (for example, if the last month of the prior quarter was March, then the LSE would determine what price would have been in effect on each day in March and average these prices.)
f. Bundled electricity products. LSEs that offer products where electricity is bundled with any other product or service—such as Internet service, security service or gas service—can display electricity price either as:
(1) The average price for which the customer can purchase an unbundled electricity product from the LSE, or
(2) The average electricity price, assuming the entire cost of the product is attributable to electricity. If this option is selected the label may include a statement in the same font as subheadings that read "The average price includes…"
g. One-time inducements. Average prices shall not reflect any adjustment for one-time cash or noncash sales inducements.

D. Contract Terms.
1. General.
a. Contract terms price information shall be included in the labels for all consumers with connected loads less than 100 kW.
b. Unless otherwise required or excepted by this rule, each label shall have the price information displayed in subsection 3.b. below.
2. Contract terms heading.
a. The heading shall state "Contract."
b. The subheading shall state "See your contract or Terms of Service for more information."
3. Contract terms information.
a. Duration of contract. The label shall show the duration of any service agreement. For the purpose of this section, the duration shall be a period within which the customer will incur a charge for early termination of service.
b. Fixed or variable prices. The label shall show whether the prices charged for the electricity product are fixed or variable. If the prices are variable, the label should refer the consumer to the Terms of Service for more specific pricing terms. If the prices are fixed, the label shall also state the period during which prices are fixed.

E. Resource mix.
1. General.
a. Resource mix information shall be included in the labels for all consumers.
2. Resource mix heading.
a. The heading shall state "Fuel Mix."
b. The subheading shall state "We used these sources of electricity to supply

this product from X/XX to Y/YY" where X/XX and Y/YY are the beginning and ending dates of the year for which the mix was determined, see section G.1.a below.

3. Resource mix information.
    a. Each label shall include a pie chart that shows the resource mix of the electricity product offered.
    b. Resources shall include the following categories:
        (1) Coal
        (2) Oil
        (3) Nuclear
        (4) Natural Gas
        (5) Hydroelectric
        (6) Waste-to-Energy (refuse burning generation plants)
        (7) Wind, Solar and Biomass
        (8) Landfill gas
        (9) Imports from (specify list)
    c. If one or more of wind, solar, or biomass individually is more than 5 percent of the mix, it shall be listed separately.
    d. Other than wind, solar and biomass, individual sources comprising 5 percent or less of the total may be listed as a single category, provided that the total contribution of the combined source shall not exceed 10 percent of the electricity product mix.
    e. Each generating plant shall report to ISO-NE what resource it uses. This information shall be publicly available.

F. Emissions.
1. General.
2. Emissions heading.
3. Emissions information.
    a. Each label shall include three horizontal bars showing levelsof SO_2, NOx, and CO_2 emissions per kWh respectively, relative to the regional average emissions per kWh.
    b. The regional average emissions per kWh shall be clearly marked by a bold vertical line for each pollutant.
    c. ISO-NE shall be the source of regional average emission information.
    d. Emission factors. Each generator shall report emissions using a single emission factor revised annually and based on:
        (1) CEMS emissions data for the most recent reporting year divided by net electricity generation for the same period.
        (2) If CEMS data is not available, emission factor information shall be derived from AP-42 emission factors.
        (3) This information shall be publicly available to anyone who requests it.
    e. Exception for new plants. If the generating facility has been in service for less than 12 months, the facility may report a reasonable estimate of the plant's emissions.

f. Dual fuel generators. Generating facilities that use more than one fuel may treat the facility as if it were two (or more) generating facilities, one for each type of fuel.

g. Cogeneration facilities. Cogeneration plants may make a reasonable allocation of emissions between electricity production and other useful output based on measured heat balances.

h. Landfill gas. Landfill gas plants may reduce their CO_2 emissions by the CO_2 equivalent of methane they prevent from being released into the atmosphere. This could result in a negative emission from an individual plant, but may not result in the emission of an entire electricity product being reduced below zero.

i. Biomass. Biomass plants fueled from certifiably sustainable fuel sources may reduce their CO_2 emissions in proportion to their use of sustainable fuel sources.

j. Energy storage facilities. Energy storage facilities shall disclose the resource mix and emission characteristics of the energy used as input to the storage device. The characteristics disclosed shall include any losses as a result of storage.

G. Reconciliation.

1. Report input.

a. The resource mix and emission characteristics disclosed by each LSE existing electricity product shall reflect the most recent 12 months ending in March 31, June 30, September 31 or December 31, whichever is later.

b. Each LSE will receive monthly reports of its resource mix and emission characteristics from ISO-NE.

c. At the end of each three-month period, the LSE shall determine its annual average resource mix and emission characteristics by performing an annual weighted average of the monthly data provided by ISO-NE.

d. Exception for new plants. For plants less than 12 months old, an LSE may adjust its historical annual resource mix and emission characteristics to reflect the generation of generating plant. Generating facilities that are less than 12 months old may report generation based on reasonable projections of the plants annual performance, taking into account any actual historical information. The LSE may adjust its performance only to the extent that it has a reason to expect it will, in fact, receive power from the plant, as determined by the tracking mechanism.

2. Existing electricity products.

a. Any LSE that sells more than one electricity product may allocate its average resource mix and associated emissions among its various electricity products.

3. New electricity products.

a. Any LSE may offer a new electricity product at any time. The resource mix and emission characteristics for the new electricity product shall reflect the LSE's reasonable estimate. The LSE's estimate shall be replaced with historical information no later than four months after the electricity product has first been sold to consumers.

4. Reconciliation report.
    a. Each LSE shall file a quarterly reconciliation report with the commission no later than 45 days after the end of the quarter.
    b. The reconciliation report shall provide an annual balancing (most recent four quarters) of the LSE's actual average resource and emission characteristics and the resource mix reported to its customers. LSEs that sell more than one electricity product shall report the weighted average resource and emission characteristics reported to customers of all of its electricity product sales.
    c. If any part of the LSE's actual resource mix or emission characteristics differs by more than the greater of 5 percentage points or 10 percent from the weighted average of the characteristics the LSE's electricity product mix, or any part of the LSE's actual emission characteristics exceeds the weighted average of the characteristics the LSE's electricity product mix by the greater of 5 percentage points or 10 percent, the LSE shall:
        (1) notify all affected consumers of the error together with corrected information, and
        (2) notify all affected consumers of their right to change suppliers without incurring any cancellation or termination charge.
        Note: this means that this year the LSE can sell in proportion to last year's mix. As the year goes on, the LSE either adjusts it product mix, changes the label for some of its existing products or changes its supply mix to stay within the rule's 10 percent tolerance. The LSE also can add new products using projected data.
    d. Repeated or willful errors may be considered by the commission when issuing or renewing certificates. In such consideration, the commission will pay particular attention to any relationship between the marketing claims for the electricity product and the nature of the error.
    For example, a commission should be much less concerned if a product with a 50 percent nuclear, 50 percent coal label being sold as a low price option ultimately had a 30 percent nuclear, 70 percent coal mix, than it would be if a product marketed as green with a 75 percent renewable mix ultimately proved to be 30 percent nuclear, 70 percent coal.
    e. Periodic updates. Emission information displayed to consumers shall be updated quarterly to reflect changes in emissions associated with changes in resource mix.

H. Rounding.
1. Price. Average prices shall be rounded to the nearest tenth of a cent per kWh.
2. Resource mix. Resource mix shall be rounded to the nearest full percentage point.
3. Emissions. Emissions shall be rounded to the nearest full percentage point.

VI. Terms of Service.

A. Content.
1. The contract disclosures must be issued in the language used in the sale to the customer and contain a disclosure that the information is available in the following

languages (those spoken in area) at a toll-free number.

2. A complete, itemized listing of all charges for which the customer is responsible.
3. Charges, if any, to cancel the contract before the end of the contract period.
4. If any of the charges can vary over time, a description of the formula by which those charges may vary.
5. Contract length, including beginning and ending dates.
6. Method of renewal.
7. Any other services sold as part of the contract (so-called "nonbasic services"), itemized and with definitions of terms.
8. Bill payment policies, if any, including due date and late fees.
9. Collection policies. Minimum cancellation notice, how to avoid cancellation, right to payment arrangement, if applicable.
10. Payment allocation (if applicable): How are payments allocated between regulated and unregulated services?
11. How to obtain the standard offer or default service.
12. The customers' right to receive financial assistance and energy management services below cost if they meet the requirements of a universal service program. Reference to the office or person to call to apply for such programs.
13. Dispute and complaint handling procedures and policies, contact person with the supplier and, if not satisfied, the customer's right to contact the state public utilities commission and the commission's toll-free number.
14. The conditions under which the customer may be required to pay a deposit and, if so, the deposit amount, the interest paid and the method by which the deposit will be returned or forfeited.
15. Where applicable, a bold-type statement: *"This contract is for only the generation [electricity] portion of your total monthly electric bill. You also must pay delivery and transmission services to [your local electric utility]."*
16. Origin of customer's electricity. An explanation might read as follows:
    The electricity you consume comes from the New England power grid. It includes electricity from many power plants. The grid transmits electricity throughout the region, as needed to meet customer requirements. When you choose an electricity supplier, that supplier will add electricity to the grid to match your needs. There is no way to know the physical origin of the electricity you actually receive at your meter. Nevertheless, your choice of supplier will determine the fuel mix and emission characteristics of the electricity your supplier provides to the grid to meet your electricity requirements. The pie chart on the label shows the fuel mix used by the electricity supplier during the most recent 12 months. The air emissions released by this fuel mix are shown at the bottom of the label.
17. The customer's right to rescind the transaction within three business days, the method to rescind and the result of a rescission, if applicable.[49]

B. Provision to customers and others. Terms of Service, in the form prescribed in this section, shall be provided to any person upon request and shall be provided to customers:

1. At the time service agreements are reached, and

49. This disclosure will depend on whether the state commission has required suppliers to offer a right of rescission, e.g., Pennsylvania, California.

2. Whenever there are changes in any charges (other than charges which change by formula).

VII. Tracking.

A. General tracking system.

1. Each LSE's resource mix and emission information shall be based on a modified settlement report provided monthly by ISO-NE.

B. Requirements of ISO-NE. ISO-NE shall:

1. Collect from each generator fuel source and emission factor information.
2. Collect from each dual fuel generator monthly reports showing energy generated by each fuel.
3. File monthly summary reports with the commission showing:
    a. The monthly average fuel mix and emissions for the New England region.
    b. The 12-month rolling average fuel mix and emissions for the New England region.
    c. The name and owner of each generator that fails to provide ISO-NE with fuel and emission information and the extent to which each LSE obtained power from any such generator.
    d. Imports and exports, described separately.

C. Hourly settlement reports. ISO-NE shall provide each LSE with a monthly report showing the hourly settlements. The report shall show for each hour the sources of electricity used by the LSE to meet the LSE's hourly energy requirement.

D. System power contracts. Notwithstanding the hourly settlement reports, any LSE that purchases energy under a system power contract from a source within New England may agree with the seller to designate the source of the energy, provided:

1. The seller agrees to inform ISO-NE of the resource mix and emissions of under this contract, and
2. The seller affirms that the transaction will not result in the same generation being sold twice.

E. Adjusted net interchange. Notwithstanding the hourly settlement reports, any LSE purchasing ANI energy may agree with any ANI provider to designate the source of the energy, provided:

1. The ANI provider agrees to inform ISO-NE of the transaction, and
2. The ANI provider affirms that the transaction will not result in the same generation being sold twice.
3. Where a firm is both an ANI provider and purchaser in the same month, it may assume the role of both an ANI provider and purchaser.

F. Imports and exports. Imports to the New England region and exports from the region shall be treated as follows:

1. If the exporting region has a tracking system and consumer information disclosure requirements that are comparable to those set forth in this rule, the treatment of imports and exports shall be comparable to the treatment of transactions within the New England region.
2. If the exporting region does not have a comparable tracking system and consumer information disclosure, the resource mix shall state "Imports from" and shall include the name of the exporting region. The associated emissions shall reflect the average emissions of the exporting company, if available, or the average

emissions of the exporting region (e.g. New Brunswick, New York), if not.

3. Exports shall be deemed to be the pro rata average mix of the exporting firm's own resources.

G. Transition rule within New England.

1. *If some states within New England do not have disclosure or retail competition, there is a concern that consumers in states without disclosure or choice might be deprived of environmentally desirable resources, while the market for those resources would be flooded in states that have disclosure and choice. States should consider the desirability of treating states without disclosure or choice similarly to imports from outside New England.*

H. Subpooling.

1. Where an LSE participates in ISO-NE through an agent, the LSE and the agent will be responsible for agreeing how the resources attributed to the agent will be allocated between the agent and the LSE. This agreement will determine the resources attributed to the LSE.

VIII. Interim Tracking Mechanism.

A. Beginning and ending. LSEs may rely on an interim tracking mechanism (ITM). The ITM shall track each LSE's resource mix and emission characteristics for all unit entitlements, including units that are owned or subject to a specific unit contract. All other sources of supply, including system contracts and ANI, shall be aggregated regionally and treated as a single source, with the weighted average characteristics of that generation not included as "unit entitlements" above.

IX. Complaints.

A. Complaint filed. Anyone who believes that, based on the information covered by this rule, any LSE has provided false or inaccurate information in the required label or Terms of Service may file a complaint with the commission.

B. LSE response. The commission will review the complaint and forward a copy of it to the LSE together with a request for the LSE's response and the specific information needed to resolve the complaint. The LSE's response shall be submitted to the commission within 14 days of the commission's request.

X. Enforcement.

A. The commission, acting on its own or in response to a complaint, may periodically audit LSE compliance with the requirements of this rule. The LSE shall be notified that the commission has found possible violations of the requirements of this rule. No violation will be found if all the information shown in the label is within the following tolerances:

1. Average price information within .05 cents per kWh of actual.
2. Resource mix information is within one-half percentage point or 10 percent of the actual data, whichever is greater.
3. Emission information is within one-half percentage point or 10 percent of the actual data, whichever is greater.

B. The LSE shall be given 10 business days to respond to the commission's initial audit results. The commission shall consider the LSE's response and either inform

the LSE that its response has resolved the issue or take one or more of the following actions:

1. Warnings. The commission may issue a warning informing the LSE of the violation. The issuance of warnings shall be considered by the commission when issuing certificates. Certificates shall not be issued to any LSE that has received three or more warnings during the most recent 24-month period.
2. Corrective actions. The commission may:
    a. Require the LSE to notify all affected consumers of the error and provide corrected information.
    b. Require the LSE to notify all affected consumers of their right to change suppliers without incurring any cancellation or termination charge.
3. Fines.
4. Referral to attorney general.
5. Certificate revocation. Repeated or willful violations of this rule are cause for revocation of the seller's right to sell electricity in the state.

C. False or inaccurate information. The commission may review the accuracy of any LSE's information disclosure. If, after notice to the LSE and an opportunity to be heard, the commission determines that material information is false or inaccurate, the commission may order one or more of the remedies listed in section X.B. above.